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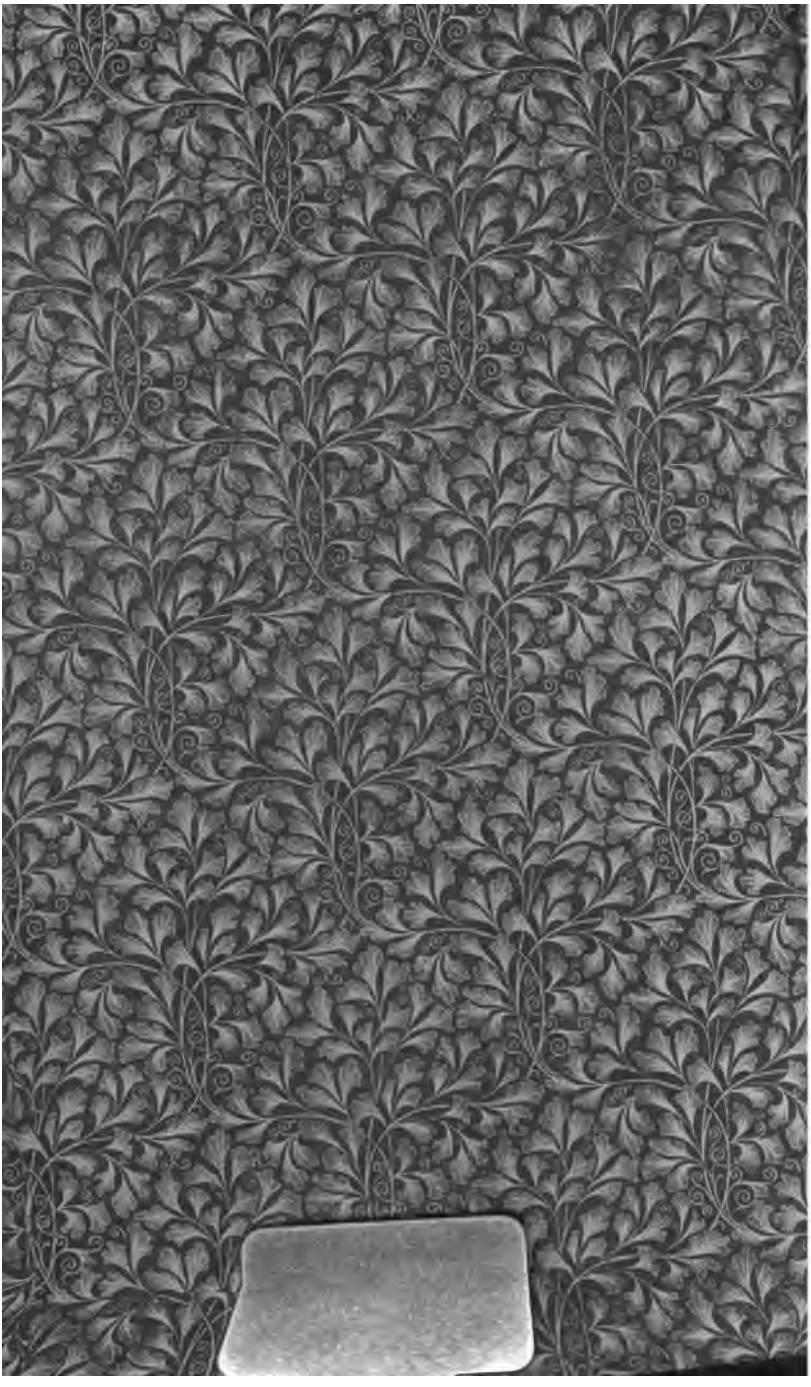

MY GARDEN WILD

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'The ivy seems to cling round his heart, and the sweet-scented honeysuckle to twine its branches round his imagination—he writes, as it were, in a bower of wild flowers, and the sweet scents of the forest and the meadow hover with balmy freshness round his pen.'

Popular Science Review.

MY GARDEN WILD

AND WHAT I GREW THERE

BY

FRANCIS GEORGE HEATH

EDITOR OF THE NEW EDITION OF 'GILPIN'S FOREST SCENERY
AUTHOR OF
'THE FERN WORLD' 'OUR WOODLAND TREES' 'SYLVAN SPRING' 'THE FERN PARADISE' 'BURNHAM BEECHES' 'TREES AND FERNS' 'PEASANT LIFE' 'THE ENGLISH PEASANTRY' ETC.

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'Beautiful flowers! to me ye fresher seem
From the Almighty hand that fashion'd all,
Than those that flourish by a garden wall;
And I can image you as in a dream,
Fair modest maidens, nursed in hamlets small—
I love ye all!

Beautiful children of the glen and dell—
The dingle deep—the moorland stretching wide,
And of the mossy fountain's sedgy side!
Ye o'er my heart have thrown a lovesome spell;
And though the worldling, scorning, may deride—
I love ye all!'

ROBERT NICOLL

CONTENTS.

		PAGE
I.	PREFATORY	7
II.	MY DREAM	17
III.	MY DREAM—CONTINUED	29
IV.	A REALITY	35
V.	FIRST PRINCIPLES	37
VI.	MY GARDEN	45
VII.	WHAT FERNS I GREW	53
VIII.	FLOWERY GRASS BANKS	107
IX.	A GARDEN GREEN LANE	165
X.	MY HEDGE-BANKS	185
XI.	CLUMPS	201
XII.	'WEEDS'	207
XIII.	OTHER FLOWERS I GREW	213
XIV.	L'ENVOI	257
	MY GARDEN KEY	263

MY GARDEN WILD.

I.

PREFATORY.

If, in the surroundings of my old house, there was one thing which I prized more than another, it was my garden wild; and if, amongst often-recurring desires to contribute, in some little way, to the pleasures or pastimes of fellow-enthusiasts who may be readers of my books, there be one which may be said to stand out conspicuously from the rest, it is the wish, nay, the earnest hope, that my old hobby may be the hobby of many others.

The world, as understood to consist, not of so many cubic miles of matter, but of so much flesh and blood, and so much brick-and-mortar work—the populated, or residential, as distinguished from the physical or natural world—is continually increasing. Towns are getting bigger, and populations are growing denser,

and, though natural resources give few signs of falling off, the struggle for existence is becoming keener. The town, being of man's making, is, like all man's works, imperfect. It is, in fact, of all human constructions the most imperfect; and citizens, by a natural and uncontrollable instinct, have always turned from it, on every opportunity, towards 'the country.' The early institution of 'the garden' furnishes proof of the ancient existence of this feeling, which has grown with the growth of cities, and is stronger in the present day than it has ever been before.

Of the various expedients adopted in modern times to give pleasure to urban populations, and to relieve the tedium of city life, there can scarcely be one which is more delightful in every way than the institution of city gardens. The love of Nature, which is innate in most people, has had less and less opportunity of indulgence as our towns have grown larger and larger, until city life and country life have become two distinct phases of existence. But as the augmentation of the number of human dwellings in any particular place has caused the country to be pushed, so to speak, further and further away, the love of Nature has, on the part of those compelled to live within the lines of bricks and mortar, become more and more intense in proportion as the absence from natural objects has become more pro-

longed. If, however, city people cannot always visit the world of Nature existing outside their own, they can bring near to themselves the objects of their admiration. And it is undoubtedly this longing for communication with Nature that has led to the institution of 'the garden,' which, in whatever age and under whatever conditions it has existed, has always been established with one object, or rather with one desire, namely, the growth or cultivation, as adjuncts to the dwelling-house, and for purposes of beauty or use, of the vegetable productions of the earth.

Gardening might, indeed, be defined as a sort of domestication of plants; and not only the universality of the practice, but its predominance over other kinds of domestication—the domestication of animals, birds, and fish—proves how deep is the hold it has taken on the fancy of mankind. The universal popularity of gardening is doubtless due to the ease with which the pastime can be followed; but it is more especially due to the larger measure of success attending the cultivation of plants than that which attends the attempts to domesticate animals, birds, or fish. The caged animals or birds, or the fish confined within the circumscribed limits of pond or aquarium, are never 'at home' in the sense in which plants are 'at home' in 'the garden,' for the reason that the natural conditions

under which all wild life exists can so much more readily be extemporised in the one case than in the other.

Yet, in the case of plants, the cultivators of gardens have not been content to let Nature run her free course; and a practice has grown up—it has been the growth of centuries—of supplying abnormal, instead of natural, conditions, and of distorting the inhabitants of gardens into unnatural shapes to please a morbid and unnatural taste. In ancient times the art of topiary was considered—by the Romans, for instance—as the highest and most valuable accomplishment of the gardener, and the degree of success in the practice of the art was measured by the more or less faithful likeness of the clipped tree or shrub to the animal, bird, or other object which the 'landscape gardener' of those times set before him as his model. The more the distorted plant could be made unlike its natural self, the greater would be the triumph of the distorter. It was in vain for Nature to resist and endeavour to regain its own form. The attempt was vigorously repressed by the free use of the inexorable clippers.

The growth of towns, which made city life a phase of existence distinct from country life, was no doubt the first cause of a change of public feeling with regard to the character of gardening. Topiary became less and

less practised. But, even in the last century, it still found many admirers. Towards the close of that century, however, Gilpin's writings did much to correct the prevalent taste. In his 'Forest Scenery' he says, 'All forms that are unnatural displease;' and he mentions, amongst the subjects of his particular displeasure, trees in hedge-rows lopped into maypoles, clipped yews, lime hedges, and pollards—describing them as 'disagreeable' to the eye. Continuing, in his simple and unaffected style, he remarks:—'Not only all forms that are unnatural displease; but even natural forms, when they bear a resemblance to art, unless, indeed, these forms are characteristic of the species. A Cypress pleases in a conic form; but if we should see an Oak or an Elm growing in that or any other constrained shape, we should take offence. In the Cypress, Nature adapts the spray and branches to the form of the tree. In the Oak and Elm, the spray and branches produce, naturally, a different character.' Such writing had influence on the public mind, because it appealed to a natural feeling, and because the taste against which it was directed had been artificially created. Even now, however, the practice of topiary lingers in remote places; but it is fast dying out.

From the monstrosities of this 'art'—falsely so called—it is perhaps a great step to the eccentricities

of horticulture as practised in our own day. To these eccentricities we are, doubtless, to a large extent, slaves. Modern life is largely artificial and intensely unnatural. We cannot help it, and must remain subject to many of its peculiarities. Perhaps it would be ungrateful to complain of the system which provides us with our modern vegetable food—the newest system of agriculture and horticulture. Modern existence is the outcome of a state of things which man has himself brought about. The fruits of the garden are acceptable to modern appetites, and the most recent appliances of science to agriculture and horticulture—the invention and application to their purpose of the ingenious compounds known as 'chemical food for plants'—have all contributed to furnish modern tables with 'new fruits,' or old fruit under new names and assumed characters. We must needs eat and be thankful. We may venture, however, to believe that, although chemistry was unknown to our first parents, although pruning and grafting were unnecessary, and 'hothouses,' and the institution known as 'the greenhouse and conservatory,' still undiscovered, Eden was, nevertheless, a paradise, and yielded food and fruit not, at any rate, inferior in 'quality' to that of our own times.

> 'With mazy errour under pendent shades
> Ran nectar, visiting each plant, and fed

Flowers worthy of Paradise, which not nice art
In beds and curious knots, but nature boon
Pour'd forth profuse on hill, and dale, and plain,
Both where the morning sun first warmly smote
The open field, and where the unpierced shade
Imbrown'd the noontide bowers: thus was this place
A happy rural seat of various view;
Groves whose rich trees wept odorous gums and balm,
Others whose fruit, burnish'd with golden rind,
Hung amiable (Hesperian fables true,
If true, here only), and of delicious taste.'

But there grew, also, in Eden, on

'Another side, umbrageous grots and caves
Of cool recess, o'er which the mantling vine
Lays forth her purple grape, and gently creeps
Luxuriant.'

Horticulture, or rather 'market gardening,' is doubtless necessary to the existence of the inhabitants of a thickly populated country, living under artificial conditions of life. But having conceded so much as to the useful phase of the system, this part of the subject may be dismissed from consideration with the remark that Nature left alone can and does produce fruit which no skill of horticulture can emulate, though the conditions of its production are not such as can exist in the immediate proximity of a region of cities.

Admitting that horticulture, as a system for the supply of food in a convenient form, is adapted to the requirements of modern town life, and thus fulfils a strictly useful purpose, there remains for consideration

its professed function of ministering to the popular desire for the *beautification* of dwelling-house surroundings. There is utility in beauty, but the function of beauty, considered in the abstract, is to please the eye, and, through it, the mind; and horticulture, as commonly practised, has sought to do this by the distortion of native plants into unnatural forms and gaudy colouring. Its great vice is that it is never content with Nature. If a wild flower be what is called, in gardening slang, 'single,' the aim of the ordinary gardener is, by divers arts, to make it 'double.' If Nature produces a 'double' flower, the horticulturist will never rest until he has forced the same plant to bear a 'single' flower. He endeavours to distort the simple leaf into a compound form, and the compound form he determines to make simple. Should wild Nature make a blossom white, the gardener must make it blue, or red, or yellow. If the colour of field, or hedgerow, bloom be blue, or red, or yellow, then ingenious arts must be exercised to make a 'garden variety' that shall be white.

It is the same throughout. Nothing which is natural pleases this horticultural taste. All the natural conditions of growth are altered—soil, position, temperature—and altered of set design to 'manufacture,' so to speak, some 'variety' that shall minister to a morbid fancy. In short, these 'manufactures' of

the modern gardener have had applied to them the alliterative designation of 'florists' flowers,' and the 'triumphs' of gardening art are certainly not the flowers of free Nature.

But signs are not wanting of a tendency to revolt against this system of cultivation. No exception is here taken to artificial aids designed to extemporise *natural conditions* for the growth of exotic or other plants requiring peculiar treatment, but only to the vicious practice of forcing results by subjecting plants to unnatural influences to please an unnatural and false taste.

To endeavour to correct this false taste, and induce a healthier and more natural system of pleasure gardening, is the aim of the succeeding chapters.

II.

MY DREAM.

A REALITY which has furnished me with the most delightful pastime of my life owes its existence to a dream, that came about in this way.

My love of the country had always been a passion It was my good fortune to be born in a singularly beautiful part of 'the fairest county of England.' The place was town and yet country; and there, less perhaps than elsewhere, did it require demonstration that man had made the one and God had made the other—for Nature firmly held her own, rich in choicest gifts, spread, with lavish grace, alike along gentle slope, over craggy steep, and through winding lane. She defied even the engineering devices of man, compelling the homage of the builder by forcing him to build in accordance with her wayward fancies. Hence there was a delightful commingling of town and country—the town struggling for pre-eminence, but the country always having it. In most towns the line of demarcation between houses and

fields is sternly drawn by bricks and mortar. It is the builder's fault that it is so. But, in my birthplace, there was sweet communion between paved roads and green lanes. At half a dozen points in the high street one might turn either to the right or to the left and find himself in the winding maze of a green lane; forgetting, in the instant presence of wild flowers, ferny tufts, and moss-covered stones, that he had just passed from a prospect of busy streets. To get to 'the top of the town' it was necessary to climb the steep sides of a hill; yet, on reaching the level of the highest house, the hill still rose steeply upwards. Continuing its course, now narrowed into a green and winding lane, for a full mile upwards, a height was reached from which one could look down on a view of blended trees and houses spread below and appearing to nestle in the hollows of a delightful valley, through which flowed, glistening, the waters of a rushing stream winding its way along by many a wooded upland from a rugged moor that, in gloomy grandeur, bounded the view in the far distance. The prospect from above of the little town below—built on and amongst hillocks which lay at the feet of the hills rising above them—was irresistibly tempting, making one long to explore all the ins and outs of the nooks of greenery so delightfully strewn amongst the white-walled dwellings. But it

was not an easy matter to unravel the mazes of paved streets and green lanes which formed this delightful commingling of town and country. The little place was full of curious surprises. Houses were built, and flower and fruit gardens laid out, in almost impossible positions. Nowhere was there uniformity. Within a few minutes the visitor would half a dozen times find himself going up hill and down hill; now meeting and now following active little streams which ran by his pathway, sometimes on one side and sometimes on both; now climbing with difficulty a steep lane with ferny hedge-banks and overarching foliage; now descending by some white-walled cottages, with ample gardens stretching in their rear; anon passing away from every sign or hint of dwellings once more into a green lane; then across a bit of main street, with a turning to the right and one to the left, into green lanes and congeries of green lanes. The whole place was musical with its running water, which oftentimes in winter made a chorus of loud sounds that in summer were mellowed into gurgles of dreamy softness. The natural rock of the district, rich red sandstone, furnished the material out of which dwelling-house and garden walls were largely built. These, left in their native hue, contrasted with others of whitewashed brick or stone or coloured rubble work. The pervading and

exceeding greenness of its surroundings was the especial charm of this little town, and in spite of the stone wall enclosures of its dwellings, the native flora of the district made itself thoroughly at home, growing not only in gardens but on garden walls, and even on house walls. Conspicuous on garden walls, amidst Moss, Stonecrops, Wall Pennywort, and, here and there, Herb Robert and Round-leaved Cranesbill, were Hartstongue and Polypody, with Wall-rue and other Spleenworts, thriving in the moist seams of soil that had accumulated in the stony interstices. But I am not going to enumerate, much less to describe, all the flowers and ferns that crowded so familiarly into the quaint streets and half-rural lanes of my birthplace, for to do so would require the space of a whole volume. The wildings came and were welcome; and, not having been educated in a strictly 'horticultural' school, I got to love them, and soon began to feel resentment against the prim gardeners who elsewhere regarded my favourites as 'weeds.' To me they always seemed far more beautiful than the flowers of the garden, and I considered it a sort of crime that they should be ruthlessly pulled up and flung ignominiously over garden walls whenever they ventured to steal in, from outside, upon gravelled paths or neatly kept 'borders.'

Pleasant recollections of the friendly commingling

of wild flowers and garden flowers in the gardens of my native town very frequently came to me in after-years, and the subject in other ways occupied a good deal of my attention. I had seen much, in the interim, both of private and of public gardens, and had noticed the stiff and artificial methods of cultivation adopted in them. Perhaps the, to me, most painful sight of all was what may be termed the slave-market of garden flowers, namely, the institution called a 'nursery,' in which masses of plants are crowded in inexorable squares or put in serried ranks, the young together and the aged together, with separate accommodation for every set of intervening ages. But most public gardens and many private ones are only 'nurseries' in another form, for the same aggregation of individual plants is effected with equal disregard of a natural arrangement.

It chanced that, some years after I had left my native town, and had gone to reside in another and distant part of the country, I was invited by a friend to visit his London suburban garden; and, to enable me to witness the beauty of his season of floral glory, it was proposed that I should come a short time after the period of 'bedding out,' to see the 'effect' of his unique arrangement of colours. The day I selected for my visit my friend happened to be from home; but having come so far to see his garden, which was a

large one for a London suburb, I determined to take a quiet walk over it and carefully note its salient features. Immediately in the rear of the house was a spacious courtyard, which had been turned into a large greenhouse by a covering of glass. A low wall, which formed the support for the framework of one side of this greenhouse, was pierced by a doorway that led down by stone steps into the garden behind, which was on a much lower level than the ground on which the house was built. On descending these steps I found myself in a space some two acres in extent, surrounded on all sides by high walls, and so situated that neighbouring eyes could not peer into it from any of the detached villas adjoining it. My first glance showed me that my friend had done his best, or rather his worst, to produce a blaze of colour.

The day was very hot, and the glowing summer sunshine tended to heighten very materially the 'effect' of this unique parterre, the plan of which could almost be taken in with one sweep of the eye. The enclosure was almost geometrically square, and was bounded by four walls. Its exact centre was occupied by a square piece of turf, in the middle of which was a faultlessly artistic 'fountain.' The figure of a mermaid was represented in the act of blowing up from her mouth an endless supply of water, which soon fell in a sym-

metrical shower into a series of three carved basins below. Artificial birds were perched on the edges of these basins, and appeared in the act of pecking at real watercress. Around the edge of the lowest basin were scattered approved clumps of vitreous-looking 'clinkers,' amongst which grew an abundance of dwarf Nasturtium. The surrounding 'lawn' was close-shaven to a marvellous smoothness, and not even the boldest Daisy had succeeded in escaping the inevitable 'mower.' At the four corners of the 'lawn' were four large round beds—one a glowing mass of scarlet Geraniums in full bloom; another with an equally gorgeous display of Calceolarias; the third full of blue Nemophilas; and the fourth of white Candytuft. Standard Rose-trees, whose every superfluous twig had been carefully 'pruned off,' stood in lines upon the turf, like soldiers on drill. The whole of the rest of the garden was 'laid out' in an arrangement of beds in the form of square or parallelogram, with straight gravelled walks between; each bed or part of a bed devoted to a mass of bloom from 'bedders out,' or to stiff rows of small shrubs, or to tall and narrow 'annuals.' From one bed came a gleam of scarlet Geraniums; in another, a small army of Stocks—scarlet, purple, white, and 'various'—reared their tall forms, each at equal distance from each; in another, Balsams of varying hues

were growing with the most admired primness. Zinnias, yellow, orange, and white, occupied another bed. Others were given up to 'mixed Peas,' to Cinerarias, dark blue and light blue, crimson, and purple, and white; to Sweet Williams, to *Clarkia elegans*, to Candytuft, lilac, and crimson, and 'carmine,' and white; and to Verbenas, rose, and purple, and scarlet, and white. Bed borders were formed of Box, clipped with mathematical precision, or Pyrethrum or 'Feverfew;' whilst around the entire garden, by the walls, standing up gloomily like a cordon of sentinels, were lines of tall, herbaceous, but, as yet, flowerless Dahlias.

The entire 'tableau' was dazzling in the extreme. It was colour, colour, everywhere, and its effect was decidedly somnolent. The day being hot, and my previous walk and the 'walk round' this model suburban garden having proved somewhat fatiguing, I was soon glad to sit under the friendly shelter of a handsome 'pagoda,' near the entrance to the grounds, and behind which a tall Aspen reared its head, its leaves twinkling with a dreamy rustling that was eminently soothing in its effect.

Reclining in a garden chair, just where the shadows of Aspen and pagoda made the air coolest, a drowsiness came over me that soon settled into sound sleep. How long I slept I do not know. But a very curious

dream, or rather series of dreams, intervened between sleeping and waking. It may be that, soon after beginning to doze, the sun had become momentarily obscured under some passing clouds. In any case, I was sensible of a delicious feeling of coolness that came over me, and I awoke, as I thought, upon a mossy shelf, or ledge, at the foot of a tall rock, which reared itself above me and seemed to shut out the sun's rays. At the same moment I heard a pleasant sound of running water, that I soon perceived came from a cascade on my right, formed by a gentle stream that was making its way, half noisily, half dreamily, over the surface of another rock, after falling from which it ran down the little dell at one end of which I was lying, or rather half reclining. Something in its size and general form seemed to make this dell familiar to me; and yet it was strange in other respects. It was about the size of my friend's suburban garden. Indeed it seemed, at first, like that garden in disguise; but a change soon took place that removed all trace of likeness. The dell had no straight lines. In place of four square walls there was a rounded boundary of grass banks, sloping upwards to woods which hemmed in the hollow all round. In the centre, a depression in the ground caught and retained the little stream which, at first, had attracted my attention, but retained it only until the

water, rising on the opposite side, had there overflowed the bank of the pool, and had then gurgled away over loose stones and disappeared between some bushes. Low shrubs of Hawthorn and Bramble, Dog-rose and Honeysuckle, grew in the hollow and upon the sides of this small woodland dell, about which, too, were scattered, here and there, moss-grown and lichen-covered rocky masses.

The time seemed early spring, and the mild softness of the air, together with momentary shadows cast upon the ground by cloud-masses floating under the eye of the sun, were suggestive of April, but early April. Upon the sloping grassy banks the sweet pale forms of Primrose blossoms were clustered, in places thickly, in others sparsely, with the delightful irregularity which is characteristic of Primrose ground; and, nestling under projecting tree-roots and jutting pieces of rock, here and there amongst the Primroses, were the blue flowers of abundant Wood Violets. Anemones raised their blushing cups from amongst the low-lying sprays of the bushes which grew in the hollow of the dell; and mingled with their beautiful leaves and flowers, making sweet confusion and filling the air with fragrance, were clusters of Wild Hyacinths. Near the mossy shelf of rock on which I reclined the tiny stream which watered this woodland dell, partially arrested in its course to-

wards the central pool by the levelness, at that spot, of the grassy bottom, spread sideways into a quaggy space from out of which gleamed glittering cups of Marsh Marigold. There was a gleam of gold, too, from above, where clumps of flowering Gorse fringed the edge of the surrounding woodland.

III.

MY DREAM—continued.

The sky presently seemed to darken so much as almost to obliterate the fair scene on which I had been delightedly looking. But the change was only momentary. Yet when the sun shone out again, it revealed a distinct change in the aspect of the dell before me; for now, whilst here and there a cluster of Primrose blossoms could be seen amongst the grass, the greater number of these flowers had disappeared, and the sloping banks of this forest hollow were blue and white and gold from thousands of Wood Violets, Daisies, and Buttercups which thronged them. I could see no more Anemones, but in their places, and based on slender flower-stalks that carried them above the bushy clumps of the grassy hollow, were the pretty and conspicuous blossoms of the Stitchwort, growing side by side with Red Robins. The delicate Cuckoo-flower, too, was abundant, and the white blossoms of the Water Crowfoot crowded the course of the stream from the point

where it flowed over the rock to its junction with the pool below. I could no longer see Wild Hyacinths, but gusts of perfume which could come from no other blossoms were intermittently borne to me on the soft breeze that was blowing. The blossoming of Gorse had not yet ceased on the upper lands above the hollow, but the gold of this beautiful flower was now contrasted with the white bloom which overspread the Hawthorn shrubs.

I felt instinctively that it was a bit of May landscape upon which I now looked; for the leafage of shrub and tree was delightfully fresh, and the cheery songs of birds singing around and the lazy flitting of butterflies, from wild flower to wild flower, deepened the impression that it was the especial month of spring blossoms.

Curious and incomprehensible are dreams—during which, though the brain is ordinarily active, the judgment generally sleeps. It now seemed that I lay on my ledge and slept—what appeared to me to be a long time; for when I awoke the scene had again changed. The glory of summer was flung over the little woodland dell in which I had been dozing so pleasantly, and it now had the aspect of veritable fairyland. The change and the charm were wrought by the almost mysterious presence of ferns, which clothed the bottom of the

hollow and draped its grassy sides. Great glossy fronds of Hartstongue hung down against the wall of rock which rose above me, whilst, peeping from the spreading moss, and jutting from every shady corner, angle, or coign of vantage, were pretty plants of Wall-rue and Maidenhair Spleenwort. Almost hiding from view the course of the stream which ran down the dell were Lady Ferns, graceful in habit and luxuriant in growth, whilst, in the hollower ground, upon the sloping banks, and far up and away into the woods, grew stately fronds of the beautiful Bracken. But higher even than these were the flowering spikes of Foxgloves, the hue of whose blossoms richly empurpled the surrounding greenery, and lent an especial beauty and dignity to the scene. Amongst the grass were ten thousand stars of the ever-present Daisy, with Birdsfoot Trefoil and heads of Clover bloom, with Tormentil and Creeping Cinquefoil; whilst, upon the upper sides of the grassy slopes, the ground was blue, in places, by the presence of the Germander Speedwell. Sweet gusts of perfume were now borne to me from the Honeysuckle which, in full blossom, was displayed from the tangled bushes of Briar, Dog Rose, and Hawthorn through which it had climbed; and, in the shrubbery beneath the cream-coloured corollas of this exquisite woodland flower, were displayed blossoms of Wild Rose and Bindweed,

the small star-heads of the Stitchwort, and the rich bloom of the Red Robin; and, lower still, hiding amongst the grass, were the slender and beautiful forms of Bell-flowers, revelling in the depth of their delicious blue.

The rays of the sun, falling almost perpendicularly upon the clear pool which occupied the centre of the dell, brought into prominence the great leaves upon which rested the magnificent blossoms of the White Water Lily; whilst, on the pool borders, were masses of pink bloom upon the tall stems of flowering Rush and Greater Willow Herb, and below them a delightful undergrowth of Bog Pimpernel and Forget-me-not.

I now became sensible of a great increase in the heat of the sun, which was shining with such resplendency upon the little forest dell. Bird-songs, which had been filling the woods all around with delicious harmony, ceased almost suddenly, and the sultry air got still—not even a twig or blade of grass showing sign of motion. An odour of new-mown hay rose from the ground near my feet; the only movement was that of a magnificent Purple Emperor butterfly which suddenly, coming from whence I knew not, settled upon some stunted Sallow leaves that grew in the marshy margin of the stream. Even sounds seemed hushed, the busy murmur of insects changing to a gentle hum, and the

noise of the flowing water settling into a dreamy gurgle.

But soon the heat became so intense as to be oppressive, and I awoke and found that, in the interval of my sleep, the shady position in which I had placed myself had been altered, and that my head, from which my hat had fallen, was exposed to the direct and scorching rays of the sun.

IV.

A REALITY.

My dream made a very deep impression upon me, and I determined to turn it to practical account. I had often wished to have a wild garden, or a garden of wildings—a garden devoted to wild flowers and ferns—one from which all 'florists' flowers' should be rigidly excluded. How delightful it would be, I thought, to have close by one's dwelling a little bit of the field, the lane, or the wood; to extemporise a little forest dell, or dingle, by one's very door; to see, in one's garden, the flora of riverside or brookside; to bring, in short, within the region of the town a fragment of 'the country'—the real 'country'—a reality so dear, so prized, so loved and longed for, in these days of hard toil, exhausting brain-work, and never-ceasing worry!

And how easy would be the carrying out of such an idea! No costly accessories would be required. Nature gives all that she has with a free and bountiful hand. 'Gardening,' in the ordinary sense, is more or less

expensive. Something must first be paid for an artificial soil, after the necessary labour has been expended on the initial preparation of the ground. Then the plants themselves must be purchased, and greenhouses or other conservatories, glass frames, hot-beds, hot-water pipes and stoves, must be furnished to aid the cultivator of a villa garden.

A delightful wild garden could be established, I believed, with few artificial aids, at a small cost, and with little trouble. It was just such a garden that I desired to establish; and the measure of my success, and the measure of my enjoyment, will, I trust, be the measure of the success and the enjoyment of others who may read what I have to write on the subject.

V.

FIRST PRINCIPLES.

THERE is one teacher far more apt at instruction than any other, and that is Nature. Her book is ever open at some page, and is always accessible, in some degree, even to those who have the smallest leisure for studying it. That part of her domain which we call the plant world is continually extending its boundaries and seeking to reconquer regions which have been taken from it. Civilised man is engaged in constant attempts to acquire portions of the vegetable world and attach them to his own world—the world of bricks and mortar. Trees are cut down, underwood is destroyed, and herbaceous plants are rooted up to make way for new dwellings. But no sooner has the work of destruction been completed than the recuperative forces of Nature begin to operate. The air is full of minute plant-germs which are always being encouraged by the pervading and penetrating moisture, conveyed by the same medium, to develop into active and visible life. Thus we

account for the curious and mysterious appearance or presence upon our dwelling-house walls, upon our clothing, upon our furniture, upon our food, and upon or within almost all the accessories of civilised life, of mould, mildew, 'rust,' smut, or other fungi; and for the presence upon damp stone, brick, or earth, of lichens, liverworts, or moss. The germs, too, of plants which are ranked in orders higher than those which include such tiny plants as these are borne by the restless winds—sometimes on the wings of the wind, and sometimes on wings of their own—into almost every nook and cranny of our towns, developing at once into green life where the necessary conditions of such growth are present; and, where these conditions do not exist, remaining oftentimes for long periods in uncongenial hiding-places, and, with strangely persistent vitality, awaiting the possible accident that may call their dormant powers into activity.

If the curious and half-mysterious manifestations of minute forms of vegetable life are made upon seemingly uncongenial objects—upon old clothes or leather, for instance—what manifestations may not be expected upon so tempting a ground as the natural soil of a garden? Who that has carefully noted the flora of a garden enclosure that has, as a model gardener would contemptuously phrase it, 'run wild,' can have failed

to marvel at the curious and beautiful vegetation which has, with singular rapidity, sprung up in it? Whence does it come?

Nature is always willing, and constantly waiting, to fashion things of wondrous beauty. Only make habitable conditions for her children and they will come in troops, unbidden but never unwelcome, to those who really love them. I confess that, to me, it was always a genuine pleasure to walk into what is called a garden 'run wild.' I do not mean a garden strewn with *débris*—this is the most euphonic term for broken bottles, bits of paper, and fragments of torn clothing or other rejectments—but one overrun with so-called 'weeds.'

The flora of a 'neglected garden' will naturally depend upon the nature of the soil. The soil *cannot* be so uncongenial as to refuse asylum to *every* wilding. Some hardy little outsider—be it only Grass or Chickweed, or Groundsel or Dandelion—is sure to obtain a footing on the most unpromising domain, be it a region of little else than soot and cinders and broken crockery-ware. Take trouble, however, to imitate in a garden enclosure the natural conditions of lane or meadow, of heath or moor, of copse or forest, of marsh or sandy common, or even of country roadside or village hedge-bank; bring in the soil of such places, and take

measures, if you please, to kill all vegetable germs which may lurk within the imported soil; and, so long as you do not by the process interfere with the character or destroy the nature of the soil itself, you may be certain that a species of vegetation will be developed upon it in keeping with the nature of the flora which such soil produces in its normal state.

Coincident with my resolve to establish a wild garden, I resolved that it should be my constant endeavour, in all I did, to copy Nature. I determined to abjure anything like 'cultivation'—understanding that expression to indicate a more or less artificial method of domestication—but to endeavour, in every possible way, and by means of a close and careful study of the subject, to supply to all the plants in the garden natural conditions of growth. The soil of no one garden would be adapted to the natural conditions of all plants. Yet by a very simple arrangement I might, it occurred to me, make it suitable to a great variety of wildings.

It is not generally known, even by many of those who profess some knowledge of horticulture, and some of those who have studied the subject of the growth of wild plants do not sufficiently recognise, how much successful development depends on the *mechanical* condition of the soil, that is to say, on its capacity or

incapacity to retain moisture and to admit atmospheric gases as contributions to plant life. If a soil were composed of heavy clay, it would suit a few species, but, without mechanical porousness, it would disagree with the great majority, unless special provision were made for accommodating them. Plants, of course, need food, and they obtain the food they require from the earth in which they grow, and from the air above them, and from the rain which descends upon them. But however abundant may be the actual supply of food in air and water suited to the particular needs of the particular plant, the supply would be useless for assimilative purposes without such a condition of the soil—the medium in which the plant lives—as would enable the vital forces to reach the organs which they are destined to renew.

Nature in every part is rich in materials from which the most beautiful and delicate organisms are replenished. The mystery of creation and the almost equal mystery of growth are beyond our powers of understanding. We cannot comprehend the beginnings of plants, and, though we can trace their movements through all their stages, and though we do know beforehand—from experience of the workings of natural laws—the nature, direction, and object of those movements, we cannot fathom the secret of the *power* which

moves. Speculation on this head only leaves us lost in wonder.

It is, however, wild Nature that produces the greatest subjects for wonder; and there is no more interesting study than that of the marvellous manifestations of plant life upon what I may call, for instance, the arable soil of a garden. Let me take the case of a town garden, which has been left untilled for several years. It may have become covered with a mixed growth of cultivated and wild plants. Let the owner of such a garden order, if he please, the destruction, 'root and branch,' of every growing thing, and take pains to see that nothing has been left that is green. It will be all in vain. One season, in spring or summer, of rain and sunshine, will produce on such soil a marvellous crop of green wild things, without any seed-sowing. In the same garden let a trench be cut several feet deep, and then let alone for a year or two. Upon the perpendicular sides of this trench there will appear forms of cryptogamic vegetation frequently quite foreign to the known or recognised flora of the immediately surrounding neighbourhood.

But if Nature thus liberally and spontaneously gives good things—for they are good, because beautiful—from her green lap, what may we not have if we take the trouble to seek, in wood, in lane, and in stream, for

the choicest wildings? When so many wild plants come unbidden into our garden enclosures, it is natural to assume that very many others, somewhat more coy than their fellows, would thrive in the same enclosures if provision were made for supplying to them their natural conditions of growth. And success in growing wild flowers and ferns in gardens depends upon the greater or less success attendant on an imitation of these conditions.

Two things, then, which may be said to constitute the 'first principles' of success, must be borne in mind in any attempt at wild gardening. The first is to study the natural habits of the plants to be grown in the garden, and the next is to make these plants 'at home,' by supplying normal instead of abnormal conditions of existence.

VI.

MY GARDEN.

My house, like many others, lay midway between two gardens, one in front of it, and the other behind. When I entered into possession I found that the front garden was laid out very much after the manner approved by dwellers in houses. There were shrubs, flower-beds, and gravelled paths, and I determined to allow that arrangement to stand without alteration. The larger space in the rear, separated from the house by a short courtyard and enclosed by four walls, presented, however, a different aspect. My predecessor had apparently preferred a promenade to a garden, and he had accordingly been content to plant Lime-trees along its sides, leaving within them merely a gravelled enclosure with central turf and a few shrubs. With great good sense he had refrained from clipping, or, in any way, interfering with the Limes, and hence they grew in full freedom, and formed in spring and summer, by the interlacement of their twigs, a mass of foliage

carry my flower or fern roots, I could easily obtain what I wanted.

My plan of proceeding in every case was to take the utmost care to get my plant with sufficient soil to prevent any disturbance of roots or rootlets. By that means I was sure of bringing home with my specimens the particular soil which was suited to each; and so successful was this method of transplantation that, when carefully carried out, it was possible to remove a plant in full bloom without the least damage to it, and without stopping or even temporarily arresting its growth or the progress of its blossoming. My garden subsoil was, I ascertained, sufficiently porous to allow of the free percolation through it of the rain. Underneath the thin coating of gravel, which had been hardened on the surface to admit of being freely walked upon, there was a subsoil of sandy loam. The whole could be easily loosened; and I determined to effect the necessary disturbance of the surface only as, from time to time, I required a particular spot or area for the introduction of some new wildings, and found it expedient to provide underneath them for plenty of free root-room.

I have spoken of transplantation, and the mention of the word reminds me how little the act which it represents is understood. There are few persons who do

not think they thoroughly understand how to remove a plant from one place to another. That is at least, they think, the easiest part of gardening. There is a great and growing fondness on the part of townspeople for gathering, during their periodical holidays, some little root or roots, from country lane or wood, and replanting it in some little corner of the garden 'at home.' Their fancy is commonly limited to the collection of one or two wild flowers, which they bring in partly to contrast with the regular garden flowers, and partly as mementoes of pleasant outings. But it is to the method of transplanting or 'pulling up' that I wish to call attention. If the plant be not actually dragged with violence from its habitat in such a manner as to leave half or two thirds of its roots behind it in the soil, the least possible trouble is ordinarily taken to loosen the earth around it; and though it may appear to retain a certain quantity of roots, great damage is done to it, from which it will take some time to recover. A plant which may strike the attention of the wanderer afield will frequently be found with its roots intermixed with those of some other plants—perhaps moss, and the desire to possess only the particular specimen which has been noticed will cause it to be disentangled from a network or ramification of roots, and thus materially injured. Much that is beautiful and interesting is also

in this way ruthlessly discarded; for rare, unrecognised seedlings may often lurk amongst the mossy accessories of the 'find.' It is forgotten by such careless flower-gatherers how long it usually takes a plant to construct its system of roots and rootlets, and that the slow work of weeks and months, or it may be of years, is destroyed by the ruthless process. In addition to and extending beyond the principal mass of roots, there are tiny, soft, and brittle root-fibres which are thrown out to seek moisture for the plant during periods of drought. They are the primary collectors of essential liquid nutriment, and the rudiments of future roots. Scores of these may be snapped by careless transplantation; and yet, when a plant is thus roughly removed from its habitat, disappointment is caused if it does not thrive in its new sphere. It doubtless involves a little more trouble to remove a plant with its roots embedded, undisturbed, in the soil in which they may be growing, but the trouble is not thrown away, and the success of transplantation is secured by the additional care bestowed upon the process.

But apart from this consideration, there is another and very important one. Its native soil is certain to be better for the plant removed from the lane or the wood than the extemporised soil of the garden; and the quantity of soil which must necessarily be brought in

with the roots to secure their being absolutely undisturbed will be oftentimes sufficient for the entire plant for a very long time.

I had noticed, shortly after occupying my new garden, that a little stream, skirting for a short distance the roadway near my house, suddenly disappeared under an archway of rounded tiles, and reappeared, as it seemed, some little distance away in another part of the district. Tracing its direction from the one point to the other, I concluded that it ran under my garden, and I was soon delighted to find that such was actually the case, and that it ran, in fact, a little way only beneath the surface of the garden soil. Here was good fortune indeed! I lost no time in uncovering the tile duct, and so altering the appearance and course of the little stream as to make it wind—between open banks—through my garden. What use I made of this extemporised brook will be seen in the course of the succeeding chapters.

VII.

WHAT FERNS I GREW.

PRE-DETERMINING to have in my garden wild only those of the hardy inhabitants of the open country that would grow without such expensive and troublesome artificial aid as that of a covering of glass—plants that might find protection, by their position, from frost in winter and from the scorching sunshine of summer, I knew that I should have to exclude a few species of native ferns, selecting those about whose success there could be no doubt.

Experience taught me that there were certain conditions of growth not easy to supply—conditions depending not so much upon the soil in which the plants grew as upon the atmosphere to which they were exposed. Very many plants appear quite indifferent to such conditions, whilst others seem very sensitive to them. Nature, although she lets us learn a good deal concerning her workings, does nevertheless conceal some things from us; and there are many mysteries of plant life as yet entirely unsolved.

The sea air appears, for instance, to be absolutely essential to the outdoor growth of some ferns, notably to that of the True Maidenhair (*Adiantum capillus-veneris*) and the Sea Spleenwort (*Asplenium marinum*), which, though growing with great luxuriance on several parts of our coasts, will not grow in the open air anywhere inland. But a glass covering, such as that afforded by a closed case or a conservatory, will supply conditions nearly equivalent to sea air; and under such treatment the ferns will thrive. I am strongly inclined to think that careful study of the subject will lead to a discovery by which these two especial ferns may be grown out of doors in such a position and under such conditions as will insure their prosperity. But I excluded them from my open garden.

As those plants which are 'commonest'—I use the word to mean plentiful, and not in its more vulgar acceptation—will have especial attention in my pages, because of their accessibility and consequent 'aptitude,' so to speak, for ministering to the enjoyment of mankind, I shall first speak, in the enumeration of the ferns I grew, of three which are the most abundant, and amongst the hardiest and most easily grown. These are, putting them in the order of their abundance, the sturdy Male Fern (*Lastrea filix-mas*), the luxuriant and graceful Bracken (*Pteris aquilina*), and the

Common (but beautiful) Polypody (*Polypodium vulgare*).

And here for a moment, whilst speaking of the rarity or plentifulness of plants, fern-lovers (who are legion) and others will forgive me if I digress a little to call attention to a very useful and interesting account which has been published—called the 'London Catalogue of British Plants'—as to the distribution of the British flora. The object of this little *brochure* being to show the relative abundance of the various species of British wild plants, the compiler, Mr. Hewett Watson, has divided Britain, as a whole, into a hundred and twelve botanical districts, and against the name of each plant in his list he records the number of districts in which it is to be found. Hence the catalogue may be regarded as a kind of *census* of British plants; but a census, so to speak, of dwelling-places and not of inhabitants. The list is most interesting and instructive, for a glance, almost, will convey an idea of the comparative rarity or abundance of the various plants throughout the country. No species of plants has been recorded, in this list, as occurring in every one of the hundred and twelve districts—which, by the way, are nearly conterminous with the British counties,—for the reason that, as will be more fully explained hereafter, the reports from which it has been compiled are not quite complete.

The most widely distributed plants have been reported only from a hundred and three districts, and none, consequently, from them all.

The abundance of the Male Fern, the Common Polypody, and the Bracken will be understood when it is stated that each of the first two has been recorded in a hundred and two botanical districts, and the Bracken in a hundred and one. All other British ferns range below them in point of abundance.

It is needless to describe the Bracken, a fern which literally clothes forest glades and hill-sides with its great triangular fronds. If on the sunny surface of a sandy common, the Bracken may grow to a height of little more than a foot, but in the depths of moist woods it will rise six, eight, ten, and even twelve feet. If the surface-soil be shallow and dry, it becomes a pigmy: if deep, rich, and moist, it assumes grand proportions. The secret of growth above ground lies in the depth to which the roots can plunge in congenial soil.

My Bracken, I determined, should be mostly placed in the higher parts of my wall-rockeries, so that their rhizomas would have a great depth of earth to penetrate. For the foundations of this rockery I had obtained some large blocks of red sandstone. These I caused to be arranged along my garden walls in such a manner that when they had all been put into the position I planned

for them they took away entirely the square appearance of the enclosure. The spaces, between these big masses of stone and the walls, I had filled with loam, obtained from the shady part of a wood in which Bracken grew in great luxuriance. This soil, whilst it was sufficiently porous, contained nevertheless enough clay to enable it to retain a supply of moisture as a reserve for penetrating roots in seasons of drought; and having been largely enriched, as all soils under forest trees are, by deposits of leaf-mould, it made the best possible foundation for the rockery. Upon the larger and lower blocks smaller ones were placed, and so graded (with earth between) towards the top as to present a natural appearance. Here, as in other cases, I had taken my model from Nature, and examples were not far to seek.

The planting of my Bracken, when the entire rockery was finished, necessitated careful attention to first principles. It is a common error that transplanted Bracken will not grow: the very hardiness, plentifulness, vigour, and prolificness of this beautiful fern ought to dispel the illusion. Doubtless those who, holding a Bracken frond in one hand, dig down around it an inch or two into the soil, and then carelessly 'pull up' what looks like a root—because there is a short length of black rhizoma and one or two fleshy root-fibres at the end of the stipes—are disappointed at the result of

replanting. To understand the secret of Bracken growth one must know the habit of the plant. The roots of large specimens will sometimes penetrate to a depth of fifteen feet; but the depth will vary with the size of the plant and with the nature of the soil. In transplanting, it is best to select specimens that are not too large, growing in somewhat shallow soil, so that the fern can be dug out with its rhizomas undisturbed. If it be desired to obtain a large specimen, special tools will be required to get it up, and special means of transport must be provided. I took the utmost care to secure specimens embedded in square blocks of turf, and I got them removed with rhizomas and rootlets intact. So soon, therefore, as they were placed in my rockery they were at once 'at home,' being in fact in their own soil, and they commenced at once to grow with vigour—fronds which were unrolling upwards when they were being removed going on to unroll as if nothing had happened. The plants revelled in the position in which I put them, and they developed so rapidly that in a very short time they had formed around my garden a little forest of graceful fronds, which shut in the space enclosed as with a fairy border, The mass of earth and the solid substance of the large stones which formed the rockery, furnished, in conjunction with the external wall, a warm barrier against the

frosts of winter; whilst, similarly, the thickness of the embankment, which soon became consolidated, served to keep in, during the hottest days of summer, sufficient moisture for the summer sustenance of roots.

Few rural lanes, stream-sides, or woods fail to confess the presence of the Male Fern, which is almost as plentiful as the Bracken. The shuttlecock shape of its robust-looking, broadly lance-shaped fronds, thrown up with sturdy grace around the scaly crown, makes it look extremely picturesque when it happens to grow in positions which enable it to rise clear of neighbouring objects. The fine, rust-coloured scales which are thickly spread upon the stipes and rachis of each frond contrast well with the cheerful green of the leafy parts.

The Male Fern is singularly hardy, and when once firmly established will steadily grow, and develop in time, in almost any soil, into a magnificent plant. The reader is sure to know that the appellation of Male Fern does not signify what it appears to do, for it is its bold appearance and style of growth which have earned for it its name. As in other cases, I obtained plants which were embedded in the sides of a high embankment, but without disturbing any of their rootlets; and they, equally with the Bracken, at once commenced a vigorous growth. I put them in various positions, some higher and some lower than others, but all of

them raised a little above the ground, so that, after leaving the crown or upper part of the root-stock—which commonly rises an inch or so above the soil—the fronds could be displayed without injury to their bold and symmetrical appearance.

As not only in the forks of trees, but on many wall-tops, in the moist crannies of ruined stone-work, and in the clefts of rocks, the Common Polypody grows, so in the higher parts of garden rockery this interesting fern will succeed, if only due attention be paid to its requirements. Few mossy walls are without the pretty adornments of this well-known plant, and it frequently, as I have intimated, grows in the forks of old tree-stumps, in woods and hedgerows. The light green (and sometimes golden-coloured) stem or stipes of the frond is ordinarily about the same length as the leafy part, and the latter is what is called *pinnatifid*, that is, cleft on each side nearly down to the mid-stem or rachis, the lobes thus formed being of a roundish, oblong, or egg shape, with blunt points; the entire frond being also acutely egg-shaped, broad at the base, broader about the centre, and pointed at the apex. But my readers will seldom find a mature plant of this species which has not some remains of the spore-cases on the back of its fronds; and these—ranged in double rows of little round *sori*, or heaps, at the backs of the

upper lobes of the frond, golden when young, and orange-coloured later on—will assist identification. Then its creeping, half-concealed *rhizomas*, or surface roots, will help to make it known. It loves the leaf-mould which collects in the crannies in which its roots are snugly ensconced, and in my garden I selected shallow holes in the higher, half shady, half sunny parts of my rock-work, in which to place my Polypodies, carefully pressing in the branching rhizomas, the 'many feet,' of the plant, with the depending rootlets, upon shallow beds of leaf-mould, so that each specimen would nearly fill the chosen cranny—of course covering the rootlets and partly covering the rhizomas. I always found it desirable to choose hollows in the rock-work for my Common Polypodies, with small crevices in their sides and bottoms, so that the fibrous rootlets might find their way into them as time went on. But I did not forget to secure the plants with abundance of soil adhering to the masses of their rootlets. These rootlets, ordinarily, under congenial conditions of growth, become, in the fork of some hedge-bank tree-trunk or shrub, a compact mass—roots and leaf-mould being oftentimes a foot square. Occasionally the rootlets may be found intertwined with pieces of decayed wood, or attached by the adhesion of the smallest fibres of the root-mass to pieces of stone when the

ferns are growing in wild, rocky habitats. In such cases I removed the whole mass so as to avoid any unnecessary disturbance of the elaborate growth which had been the work of a long period of time. By these means I was assured that the plants would thrive, and would not at once begin to dwindle in size, as is commonly the case when the specimens are roughly removed from the places of their growth, and a large quantity of the root-fibre is left behind. The Common Polypody grows by the elongation of its rhizomas, which, as they travel about, give out from below fibrous rootlets, that penetrate the crevices adjacent to them, and thus serve to hold the rhizomas to the soil, or rocky surface over which they creep, and at the same time to promote the firmer establishment of the entire plant. Whilst the Bracken is deciduous, and the Male Fern is ordinarily so, the Common Polypody, when sheltered, is an evergreen, and thus the old fronds will oftentimes remain on the rhizomas during the winter, and until the new ones begin to unroll in the succeeding spring. It is a most accommodating plant as to the situation in which it grows, for it will be content with a dry position on the side of a wall or rock, producing, however, in such a place, tiny fronds of only an inch or two in length; but on the tops of old walls where much soil has accumulated, or in the moist

forks of trees where there have been similar accretions of leaf-mould, it will attain a length—for stem and leafy part of frond—of twelve and eighteen inches; and in the dankest part of the hedge-bank of a deep Devonshire lane I have found fronds of this attractive plant two feet and a half long.

Ranging, as to wideness of distribution, next below the most familiar of the British 'many-footed' ferns is the Hard Fern (*Blechnum spicant*), whose hard-looking, glossy fronds justify its common name. The Hard Fern occurs in, at least, ninety-nine out of a hundred and twelve districts, and can scarcely be inaccessible to any one. There is a peculiar and noticeable wiriness about its short frond-stems, and the leafy portion of its barren fronds is pinnatifid after the manner of the Common Polypody, though the lobe-like divisions are much more leathery and are narrower than those of *Polypodium vulgare*, and they dwindle in size, towards the base of the frond, to tiny leafy protuberances or expansions. There are two kinds of frond, barren and fertile, the fertile ones—bearing on their backs the densely clustered, dark-brown spore-cases—being much taller and, in all ways, more attenuated than the others. No kind of soil, in the damp woods where *Blechnum spicant* abounds, so well suits this glossy evergreen as leaf-mould with a subsoil of clay or very 'strong loam,'

which means clay earth; but, oftentimes, it grows in great luxuriance upon the higher parts of steep banks, frequently, too, growing splendidly in woods upon sloping ground over which oozes some stream of water. The especial and favourite habitats of Primroses in many a woodland bottom are also oftentimes those of the Hard Fern. So my garden stream-side was, I knew, the best position for my wild specimens. Along the course of my garden stream I had had placed some big blocks of red sandstone, some in mid stream—and around these the water whirled, forming two little channels on either side—and other blocks along the stream-sides. Selecting the shadiest possible position at the bases of the boulders, I had excavated a small space, into which I placed some rather 'heavy' soil, and upon this my Hard Ferns. The natural soil of the places where these ferns grow to perfection is, as I have already said, much intermixed with clay; and where a plant grows in a clay soil it is always easy to take it up with a consolidated mass around its roots of almost any required size. It is the lightest soils that from their friability cannot without difficulty be gathered compactly around a plant; and however much care be used in the act of removing plant and earth, the latter is continually liable to slip away from the roots. This, however, obviously does not apply to plants on 'clay

soils.' Roots do not travel so quickly, as a rule, through heavy soil, and hence, if *Blechnum spicant* be taken up with enough earth to include its ultimate rootlets, the supply of soil thus obtained will probably last it for a very long time. My specimens were quite at home beside my garden stream, and always looked fresh and natural.

Still observing my preference for the *commonest* ferns (to me, I confess, there is a charm in their profusion), I must here give some description of my garden Lady Ferns. Botanists call the Lady Fern, *Athyrium filix-fœmina*, but the common popular designation is very appropriate. It has been recorded in ninety-seven out of a hundred and twelve of the botanical districts of the 'London Catalogue,' and in the dampest of its damp and shady habitats its fronds will grow to a length of five feet. Its greenness and its herbaceous delicacy are amongst its prominent features. The green stipes carries a lance-shaped frond, whose pinnæ or secondary divisions, also lance-shaped and pointed, are again divided into pairs of indented, oblong pinnules. The concave habit of the under-sides of fronds, pinnæ, and pinnules gives prominence to the drooping gracefulness of the Lady Fern. Its being found in the damp bottoms of woods and on stream-sides, frequently in company with the Hard Fern, gives appropriateness, in

another way, to my introduction of this inhabitant of my garden wild next to my reference to *Blechnum spicant.* But though its damp or water-side proclivities are the same, it does not require so heavy a soil, preferring a preponderance of leaf-mould, which is always light and porous, and an admixture of loam that is largely composed of sand. Though so beautiful, it is amongst the hardiest of ferns, and I put it in my garden by the side of my Hard Ferns along the stream-side. It is interesting to note how very readily *Athyrium filix-fœmina* will adapt itself to a new habitat in the garden. Even if not very tenderly or carefully dealt with in transplantation, it is wonderfully forgiving, and will speedily overcome temporary injury to its roots. But if it be taken up without any disturbance of roots or rootlets, it will exhibit astonishing vigour, and new fronds, should it be the summer season, will spring up with great rapidity. When placed in my garden I took care to give the plants such positions as would enable them to display their arching, graceful habit. In several instances I gathered specimens from the woods growing in the same clump as Hard Ferns, and in these cases I left them undisturbed, for they furnish a striking contrast when compared with the more rigid, more glossy, and darker-coloured *Blechnum spicant.*

Three members of the pretty family of the Spleenworts now claim attention by virtue of their position next after those I have named in the order of relative abundance. The Wall-rue or Rue-leaved Spleenwort (*Asplenium ruta-muraria*), the Black Maidenhair Spleenwort (*Asplenium adiantum-nigrum*), and the Common Maidenhair Spleenwort (*Asplenium trichomanes*) have been recorded each in about ninety-four out of the hundred and twelve botanical districts. Rocky habitats are mostly those favoured by these ferns, though the two last named will sometimes grow with great luxuriance in the shady side of a hedge-bank, especially when sheltered by shrubbery, and when their roots are embedded in the crevices of loose slate-rock, or other stone which may form part of the structure of a hedge-row. The triangular form of the dark-green, glossy, leathery-textured fronds of the Black Maidenhair Spleenwort, taken in conjunction with the shining purple stipes and the triangular and beautifully-divided forms of the pinnæ, will help to make it recognisable. It is like no other plant found in the same positions, whilst the rich, dark-brown clusters of *sori* on the backs of the fronds will show its relationship to the cryptogamic class of the vegetable world. The fronds of *Asplenium adiantum-nigrum*, like those of the wall and rock-growing Polypody, are small or large, stunted or

finely developed, exactly according to the more or less favourable position of the plant, varying from one inch, in its most stunted form, to twenty-four in its most finely grown state. I planted my specimens, which I had carefully obtained so as not to cause the slightest disturbance of the roots or fibrous ramifying rootlets, in little crevices of shaded rockwork filled with soil which was almost pure leaf-mould, taking means, in the especial case of this fern, to place the root-stock well under jutting portions of rock. Close observation had shown me that the finest natural specimens of the Black Maidenhair Spleenwort were almost invariably those whose root-stocks, though not covered with soil, were half hidden in the darkness of stony crannies. Such positions engender a moist atmosphere immediately around the crown of the plant, a condition which is conducive to vigorous growth. A position—by the stream in my garden—amongst loose stones on the shady side of a piece of sandstone rock, was also found suitable to *Asplenium adiantum-nigrum*. Its tiny relative the Wall-rue, or Rue-leaved Spleenwort—the most diminutive of wall ferns, seldom having fronds more than a couple of inches long, more commonly an inch long, and, less frequently, three, though in rare instances five or six—must be unknown to very few persons, though its small size renders it ordinarily inconspicuous. Yet

it is easily identified by its leathery, dark-green, persistent, wedge-shaped fronds divided into pinnæ, including sets of, commonly, three wedge-shaped pinnules. On the backs of these the spore-cases are frequently crowded so densely as to cover the entire surface of the tiny lobes. They are of a dark-brown colour, which contrasts forcibly with the evergreen, dark shade of the leafy portion. To succeed in transplanting the Wall-rue it is absolutely essential that the little plants should be got out from their habitats intact. They form, though so very small, compact and considerable masses of root-fibres. These must not be injured or disturbed by removal; and, in replanting them in rockwork, the crown of the plant, though kept free from soil, should be concealed under some protecting bit of stone, and in a somewhat horizontal position. I planted my specimens six or seven feet above the ground, taking care that the earth around them—sandy leaf-mould—should be firmly pressed in. The persistence of its little fronds, for they are evergreen, adds a feature of especial interest to this pretty rock-loving species. By removing them from their wild habitats embedded in small lumps of rock and earth, so that the wiry rootlets were untouched, I secured their successful transplantation. The Common Maidenhair Spleenwort (*Asplenium trichomanes*), though small in size—three or four inches in length as ordi-

narily seen—at once arrests the eye on wall or rock, because it is so especially distinct from any other species of plant likely to be growing in the same neighbourhood. Each frond consists of a prominent purple mid-stem, continuing the short purple stipes, with dark-green pinnæ, roundish oblong in shape, set on it usually in opposite pairs, but sometimes in alternation, the pinnæ or lobe-like leafy extensions of the frond being largest about its centre, and diminishing in size towards its base and towards its apex. The pretty little fronds grow in dense clusters around the crown of the plant, and the roots are embedded in the moist crannies of walls and rocks, being very tough and wiry. Sometimes the Common Maidenhair Spleenwort may be found growing upon the soft soil of a hedge-bank, and then, if sheltered behind some bush, its fronds will attain a considerable length—sometimes as much as eighteen inches. Precisely the same care must be taken, in removing this species from its rocky home to the garden, as that adopted in the case of the two pretty members—already mentioned—of the same family group. I put the specimens in my garden wild in the same positions on my rockwork as the other two kinds. But I also put some in small holes on the shady side of the big boulders which I had placed along my garden stream, taking care, however, in each case to give them an airy position,

for these little plants are impatient of the reeking moisture which is absolutely essential to the life and healthy growth of many ferns. Little fragments of sandstone for all three of the Spleenworts I have named should be placed along with the sandy leaf-mould soil in which they are planted, for the most minute of the root-fibres will attach themselves to the stone, their points entering the stony pores and benefiting thereby. When taken from the positions in which they grow wild, it will often be noticed that, in withdrawing the roots of the plants, fragments of stone will adhere to the ultimate fibres, the capillary attraction of the stony pores having drawn into their minute cavities the root-hairs, which gather thence what moisture they contribute towards the sustenance of roots, crown, and fronds.

Next in the order of plentifulness to the Ferns already mentioned is one of the finest and handsomest of the entire class—the Broad Buckler Fern (*Lastrea dilatata*), which certainly, both for beauty and hardiness, I found second to none in my garden of wildings. The Broad Buckler Fern has been reported from ninety-one out of the hundred and twelve districts alluded to on a previous page. Its spreading and arching character is indicated by its specific name of *dilatata*, and in the depths of shady lanes, in the damp parts of sheltered woods, and by the margins of moor-

land streams, it will, not unfrequently, attain a length of frond of five or six feet. The general shape of the frond is almost triangular. On each side of its rachis, or central stem, grow, in opposite pairs, triangular pinnæ, and these are again divided into opposite pairs of pinnules, also triangular in form; and the pinnules in their turn are cut, nearly or quite down to their mid-stems, into oval-shaped lobes, which are beautifully indented. The pinnules are concave on their under-sides, and this feature gives a peculiarly graceful appearance to the plant, and heightens the effect of its generally drooping habit. The stipes is clothed with dark, purple-coloured scales, and the crown is similarly covered with dark scales. Standing alone in a deep lane or wood, it is difficult to conceive an appearance of greater beauty than *Lastrea dilatata* presents. Growing wild, these ferns may be found of all sizes, and it is better to obtain specimens which are small than larger ones, for the reason that it is so much more easy to successfully transplant, because it is so much less difficult to get up the entire roots of, the smaller ones. The roots of very large specimens extend so far that it would be a work of some magnitude to secure them all intact without any disturbance of the soil in which they grow. I selected the most moist and shady spots in my garden for my Broad Buckler Ferns, plant-

ing some at the feet of my side rockeries—but in such a manner as to leave them free to display their arching habit without touching any adjacent piece of rock-work—and one or two, in shady nooks, at the base of my stream-side boulders. Having always found that the finest and most luxuriant specimens grew in those parts of deep, damp, sheltered lanes, and of moist shady woods, where overarching vegetation had caused, by annual deposits, the richest accumulation of leaf-mould, I took care to imitate such conditions in my garden, letting there be, however, an admixture of peat and sand with the leaf-soil. No fern amongst the hardiest in my whole garden succeeded better than my Broad Buckler Ferns.

Though not quite so widely distributed as *Lastrea dilatata*, no fern can be better known in the districts in which it does occur than the Hartstongue (*Scolopendrium vulgare*), whose common name suggests its tongue-shaped, simple form. Though so unpretending in appearance, this species had a great attraction for me, and I grew a number of Hartstongues in my garden. They amply repaid me for the consideration I showed them—a proof that even inanimate Nature is not insensible to thoughtful regard. Perhaps the reason of my liking for the Hartstongue was that it was a plant that had always had a strange interest for

me—an interest first suggested by a belief, in my childhood, that the curious-looking, snuff-brown, raised marks on the backs of the fronds were caterpillars. At one time I remember I had a sort of dread of it, believing it to be something between the vegetable and the insect world. But when I got to know that it was 'a Fern,' that it consequently never flowered, and that the singular-looking, double rows of brown things placed at the backs of the fronds in almost parallel lines, each row of parallel lines so arranged that each line ran diagonally from the green mid-ribs to the wavy, entire margins—when I got to know, I say, that these curious excrescences were seed storehouses, or aggregations of minute spore-cases, enclosing a number, innumerably vast, of infinitesimal seed, my keenest interest was excited, and my half repulsion turned to attraction.

It can scarcely indeed be a subject of wonder that 'fern seed' should have been regarded, in times past, with a certain amount of suspicious awe. It is the closer study of Nature, in our own day, that has led to the discovery of facts which, though wonderful in themselves, are found to form part of a regular and beautiful system, founded upon the workings of fixed laws, instituted and regulated by a beneficent Creator. But though the belief in certain mysterious powers said to be possessed by 'fern seed' is now almost, though not

quite, extinct, less than a hundred years ago it was still one of the faiths of the remote country-side. The 'black spots,' as the clusters of spore-cases were called, came suddenly, it was believed, upon the backs of the fronds on 'midsummer eve,' and if then 'caught' by a particular method it would—provided 'evil spirits' did not interfere with the process of 'catching' it—confer on the collector certain mysterious powers, amongst these being the ability 'to walk invisible.'

But to return to my garden and to my Hartstongues. There was no more cheerful element in all my wild parterre than the greenness of the glossy fronds of these delightful plants. If Nature did not produce some of her works after the simplest possible models, we should not admire so much her elaborately beautiful creations. The mind and the eye both seek relief, from time to time, from the sameness of particular forms of beauty; and, when we are tired of looking at what is simple, we renew our pleasure by turning to objects higher in the region of created handiwork. But from such contemplative heights we return again, and again with pleasure, to simpler forms. Yet the Hartstongue, as if wearying of its own simplicity, varies its own normal habit by assuming five hundred variations from the common standard. I never cared much for these variations, interesting as they doubtless are, preferring the ordinary

or normal form from which they have all sprung, the green, or it may be purple, and scaly stipes, the scaly crown, and the delightful fronds, with green so deep and glossy on their upper sides, and the strange brown markings underneath. From minute tufts of fronds little more than an inch in length, when growing on dry walls or the dry and sunny sides of rocks, the Hartstongue will become a great plant, with fronds three feet in length, when its habitat is the damp soil under brook-side shrubbery, the dank, shady hedge-bank of a deep green lane, or the moistest hollows of a woody bottom. I planted mine wherever I needed a refreshing contrast from the more finely cut and elaborate forms of other ferns, and also on my Primrose and Violet ground hereafter to be mentioned. Often in my rambles after wild roots I came upon clumps—on the lower side of a sloping, shady hedge-bank, or close by the water's edge, in a streamlet meandering through a wood—of Hartstongue and Lady Fern, with roots intertwined and fronds also, both species thriving under precisely similar conditions. In such cases I always took them up without attempting any solution of continuity of individual roots and rootlets, but with big lumps of soil that hid all roots from sight. Why, indeed, should I have ventured to undo what Nature had done? She often joins things in such copartnership, and no contrast

could be more delightful than that so conspicuously exhibited in the mingling of Lady Fern and Hartstongue fronds, the perfection of graceful lacework with the perfection of simplicity. Both these ferns like not only moisture and shade for their roots, but moisture around their crowns and around their fronds; and hence no position is better for them than a water-side one, especially if they may occasionally get the dash of spray upon them. In a soil of leaf-mould, with an admixture of heavy loam and sufficient peat to absorb and store up watery nutriment, they are sure to succeed, if but the simplest attention be paid to their natural requirements.

I did not mention that the Hartstongue is recorded in eighty-nine out of a hundred and twelve districts; and the next fern I shall mention is, in point of abundance, nearly on a level with it. This is the Hard Prickly Shield Fern (*Polystichum aculeatum*), which is recorded in eighty-eight such localities. Oftentimes this beautiful fern, like the Lady Fern, grows side by side with the Hartstongue, and I obtained several such twin growths for my garden wild. In the general lance-shaped form of the frond there is similarity between *Polystichum aculeatum* and the Male or Common Buckler Fern, already referred to. But the frond of the latter is broader than that of the former, and

the form and indentation of the pinnules or ultimate divisions are widely different. The clustering of rust-coloured scales upon not only the stipes of the frond of the Hard Prickly Shield Fern, but upon its entire under-side, though chiefly along the under-sides of the mid-stems, constitutes a beautiful feature of the species. The stipes is short, the entire frond lance-shaped, the more or less opposite pairs of pinnæ also lance-shaped, each pinna being again divided into more or less opposite pairs of distinctly wing-shaped and prettily indented pinnules or lobes. About its fronds there is a hard, rigid, spiny look, and they sometimes, in favourable situations, attain a height of four feet, though commonly the size will be found to be less. Half-evergreen as it is, and especially robust in its habit, I found it did not dislike a little sunlight, so that it could be planted almost anywhere in my garden.

My garden stream of water enabled me to introduce the Mountain Buckler Fern (*Lastrea oreopteris*), which is much like its near relative the Male Fern in the blunt-pointed lobes or secondary divisions of the fronds, but is distinctly unlike it in its golden-green hue, in the diminution in length downwards of the pinnæ from the centre to the base of the frond, where the opposite pairs of pinnæ are dwindled to very small leafy protuberances, and finally, though chiefly, in the

beautiful lemon-scent which its fronds emit when pressed upon or handled. In the case of this handsome fern especial care is needed in removing it, so that its roots may not in the least be interfered with. I found that the best soil for it was one consisting very largely of peat, with some small portions of leaf-mould and sand, to assist the mechanical action of the soil. In mountainous or hilly districts and on high moorlands this species will often be found fringing streams, and in growing it in the garden a water-side position amongst little masses of rock will be the best for it. It will then add to its garden surroundings not only the beauty of a singularly graceful and symmetrical appearance, but the particular attractiveness of balsamic perfume. Though absent entirely from some parts of the country, its distribution, nevertheless, is a pretty wide one, for it has been recorded in eighty-seven out of a hundred and twelve botanical districts.

A curious little fern which I grew in my garden—not very much like ferns in general—was the Moonwort (*Botrychium lunaria*), about which there is some especial fairy lore. It occurs in at least eighty-six out of a hundred and twelve botanical districts, and the places where it is found are heaths, moors, and open pastures; and, though it likes moisture, its habitats are not those which are especially damp. Sometimes only two

inches in length, it may occasionally be found as long as ten inches. Its brittle, fleshy, thick root gives rise to a reddish-brown sheath, a green succulent-looking stipes, and two kinds of frond, the one leafy and the other a seed-bearing stem, rising from the point where the leafy branch diverges, and having at its apex a series of lateral stems, upon which are clustered the round spore-cases, coloured when ripe a reddish brown. In opposite pairs on the rachis of the leafy frond are fan-shaped or half-moon-shaped—the lunar form has probably suggested the name of the little plant—pinnules of a deep green colour. However readily most hardy plants will recover from any disturbance of their roots, though the time of recovery will always depend upon the extent of the disturbance, it is fatal to a Moonwort if it be pulled up by the roots without the accompanying mass of grass roots with which its own are intimately mixed. An impression has consequently gained ground that *Botrychium lunaria* is a sort of parasite on grass roots, and the reason for it is that if the grass roots die after removal the fern will die also. Of the effect there can scarcely be a doubt, but it is probably ascribed to the wrong cause. The death of the grass roots indicates an unhealthy condition of the soil, which is doubtless equally fatal to the fern; so that, if care be taken to keep the

soil in a wholesome and natural condition by ordinary methods, the successful transplantation of the Moonwort may be assured. As in removing other plants, so with this one, the rule should be observed not to make the slightest disturbance of roots or rootlets, but to take up the fern snugly ensconced in the green turf on which it is growing, digging deeply enough underneath to be quite sure that everything, even to the remotest filament, is included.

I must not forget, in speaking of the Moonwort, to include a little plant—in the enumeration of those in my garden—bearing a certain relationship to it, and like it growing in grassy ground, in field, heath, or moor, though preferring a damper soil and a larger admixture of clay in the soil than does *Botrychium lunaria.* I refer to the Adder's-tongue (*Ophioglossum vulgatum*), which bears a sort of double frond—a green, leafy expansion, in shape like the leaf of a Lily of the Valley, and a taller stem clasped at its base, sheath-like, by a prolongation of the lower part of the leafy expansion, and bearing at its upper end a spike of spore-cases, roundish in form, and arranged in a double row on each side of the stalk which carries them. In some places this little fern is very abundant, and it is almost as widely distributed as the Moonwort, having been reported as occurring in seventy-nine out of the total

number of botanical districts. To remove it for successful transplantation, care must be taken to get it up, with the grass roots amidst which it is growing, undisturbed. But it may, and should, be planted in a more moist and shaded position than that selected for its near relation last referred to.

About the centre of my garden I formed a pool by the simple process of having the soil removed to some depth, lining the bottom with clay, and letting the water run in from the stream until it filled the hollow and flowed out on the other side. Around the margin of the little lake I thus constructed I had some misshapen blocks of stone placed, but so placed as to give the appearance to the whole, when finished, not of a bordered, artificial basin, but of one of the delightful little rocky pools which one may often find in moorland country, formed by the widening out of the moorland streams. In such pools the continual renewal of the water prevents stagnation, and their margins are hence surrounded by ferns and by those aquatic plants which love the sparkle and purity of running streams. On the borders of this garden pool I planted some Royal Ferns, just where their crowns would be above the water level, but their matted roots could secure an abundance of moisture. The Royal Fern (*Osmunda regalis*) is a truly regal plant, as its

name suggests, attaining a height sometimes of twelve feet, but only in those positions in which it can secure a spongy peat soil, shade, and abundant moisture for its roots. Its root-stock is raised, in the largest specimens, to a height of a couple of feet above the ground, and when this is the case it assumes very much the form of a small tree-fern. The frond is broadly lance-shaped, divided where, at the termination of the stipes, the leafy portion commences, into lance-shaped opposite pairs of pinnæ, which are again divided into almost opposite pairs of oblong blunt-pointed pinnules, and are terminated, at their apices, by single pinnules. This, at least, is the form of the barren fronds. But it must be noted that the fruitful or spore-bearing fronds, though of the same general shape as the others, have their ultimate pinnules contracted, and they bear upon their margins the clusters of roundish spore-cases which, when ripened, give, by their light-brown hue, to the apex of the frond the appearance of a flower—an appearance which has gained for this species the popular name of 'the Flowering Fern.' On account of the large size of its root-stock and of the abundance of its roots, it is not an easy matter, unless the operation be attempted with adequate aids, to remove, without injury, a finely grown specimen of *Osmunda regalis*; and it is most essential, in transplant-

ing, to avoid any disturbance of the roots. I obtained moderately-sized plants, and brought with them earth enough to last them for a considerable time. But, in anticipation of ultimate growth that would extend beyond the circumscribed limits first provided, I obtained from the soil immediately contiguous to that in which my ferns were growing a good supply of sandy peat, which I placed underneath and around my garden Osmundas. The straw colour of the stipes and of the rachis and its branches, and the golden-green hue of the leafy portion of the frond, give a light and elegant aspect to this royal plant. My specimens throve admirably, and added a distinct element of beauty to their ferny surroundings. In marshy and boggy places, and at low levels by moorland streams, this species is to be found, sometimes clustered in great abundance; and it has been recorded as growing in seventy-seven districts out of the total number already enumerated.

The marshy tracts of many woods will enable the fern-hunter to make acquaintance with a beautiful, moisture-loving member of a group already mentioned —the *Lastreas*. The Prickly-toothed Buckler Fern (*Lastrea spinulosa*) is by no means a formidable species, as its name might perhaps suggest. A long green stipes, with a few scales scattered upon it, a triangular-shaped leafy portion consisting of opposite

pairs of triangular pinnæ—these again divided into pairs of deeply indented or fringed pinnules—such is the Spinulose or Prickly-toothed Buckler Fern. It will be frequently found growing in company with *Osmunda regalis*, and will always be admired for the perfect regularity and symmetry of its form. It is to be found in at least seventy-one out of a hundred and twelve botanical districts. In my garden I planted it in the immediate vicinity of my Royal Ferns, providing for it similar soil to that I obtained for *Osmunda regalis*, and keeping it in absolute shade.

My Beech Ferns or Mountain Polypodies I greatly prized, and chiefly because of association, for they recalled a delightful holiday spent amongst wild and beautiful moorland scenery. I gathered my specimens from near a great waterfall, upon a ledge placed, indeed, within reach of its spray; and I never looked at them afterwards without picturing in imagination the glorious landscapes opened up from every point of the district in which they grew. The Beech Fern (*Polypodium phegopteris*) is a delicate and gentle relative of *Polypodium vulgare*; but, unlike it, it cannot bear sunshine and exposure on dry rocks or walls, but seeks the coolest and moistest nooks. It has not a close resemblance to its better-known and more widely distributed relative, but, like it, it has a creeping root

or rhizoma, which finds its way along amongst the moss and other roots which grow on the wild ledges where it loves to find a home. The leafy portion, which continues the long, slender, brittle, and pale-green stipes, is also pale green, triangular in shape, and divided into opposite pairs of slender pinnæ, which are deeply incised, the incisions forming blunt lobes in the lowermost pinnæ, but becoming less and less deep, and finally disappearing towards the apex of the frond. It is interesting to see how any peculiarity of the wild character of a plant is continued and perpetuated in a garden. The lowermost pair of pinnæ in the Mountain Polypody exhibit a peculiar habit, for they droop instead of standing out from the rachis, as the others do, and their tips point towards the ground. My specimens preserved the same peculiarity. I so managed as to place them in such a position, low down by the course of my garden stream, that a tiny rill of water flowed over their rhizomas, whilst their fronds secured the moistest emanations from the stream. Leaf-mould and peat form the natural soil of the Mountain Polypodies, and, though in removing mine I took care to obtain an abundance of soil, I knew that their rhizomas would travel so rapidly that it would be necessary to provide congenial root-room in the immediate vicinity of the spot in which I planted them.

Very plentiful in some, chiefly mountainous, districts, *Polypodium phegopteris* is entirely absent from many others. It is to be found in at least sixty-nine out of a hundred and twelve botanical districts.

Running it close in the matter of abundance is another delicate and beautiful fern (*Cystopteris fragilis*), a little plant as frail as its name suggests. The Brittle Bladder Fern, though a very delicate, is withal a very hardy fern, and loves especially the coolest and dampest nooks. In sixty-six out of the total of a hundred and twelve districts *Cystopteris fragilis* can be obtained. From six to fourteen inches, according to their situation and conditions of growth, is the length of its fronds, which are produced in tufts from the crown of the root-stock. Its name indicates the brittle, herbaceous nature of these fronds. The stipes is somewhat long, though very variable in length, and the leafy portion, broadly lance-shaped in general form, is divided into opposite, or irregularly-placed, pairs of pinnæ, which, in their turn, are again divided into opposite, or irregularly-placed, pairs of deeply-notched pinnules, in luxuriant specimens the notches being so deep as to almost divide the pinnules into distinct lobes. Inconspicuous at a distance, on account of its small size, the Brittle Bladder Fern proves to be very graceful and beautiful on close examination of its crisp green fronds. It was very

easy, in removing my specimens from the spot where they were found, to get an abundant supply of earth, because there was a good depth of soil, and the roots had not penetrated the crevices of the adjacent rock. *Cystopteris fragilis* oftentimes grows on walls and in the moist earthy seams of rocks, and in such cases removal of the plant uninjured is somewhat difficult. It is so hardy a fern that if taken up with a small quantity of root it will recover the effects of disturbance in a comparatively short time; but the greater the care taken in transplantation, and the less disturbance there is, of any kind, of roots or rootlets, the more certain will be the success. I put my plants of this species in the rockery at the side of my garden, and in long narrow crevices the length of which enabled them to spread, as it is their habit to do, by the multiplication of their crowns. Growing wild, many rock plants, including this species, are found in crevices just large enough to hold them, and the ability to closely press the rocky sides of their habitats seems congenial to them. Nature is the best of teachers, and so it is well to imitate all she does, especially when we know that there is always a reason for everything. Certain ferns, for instance, can bear an amount of exposure to sun and wind that would be fatal to others. Those species which are thus exposed always acquire an especial

hardness and closeness of fibre. The more succulent and tender kinds would shrivel and die under such conditions, and moisture and shade are the life of these. The Brittle Bladder Fern is one of the delicate herbaceous kinds, and exposure to the air of a large surface of the earth over its roots would be injurious to it, unless the soil could be kept continually moistened. On the sides of rocks such a condition of moisture would frequently be impossible, and hence the friendly stone when pressed on each side against the root-stock and crown of the plants prevents the too rapid evaporation of moisture from the earth underneath in which the roots are growing. How beautiful yet how simple such a provision is will be recognised when it is remembered that the pleasant and genial rain, which it is so good to see falling upon thirsty earth, frequently tarries in its coming; and, if Nature did not make arrangements in anticipation of such periods of drought, the country, over wide areas, would soon lose its fair mantle of green, and especially would its 'stony places' be stripped of the pretty contrasts which the waving tufts of greenery adorning them so delightfully afford.

I must repeat, lest I should be misunderstood, that my order of precedence in the mention of the wild plants which I grew in my garden is generally the order of prevalence, rather than the botanical order. Hence

why, in taking my reader from one corner of my garden to another, I introduce him first to the *commonest* (not the most vulgar in a depreciatory sense) of its inhabitants, and lead him next to those which come after in my established category of preference. My reason for this is that what is both beautiful and very abundant gives more pleasure in the abstract than does that which, though equally beautiful, is less abundant, because the greater abundance of a thing makes pleasure possible to a larger number, and it is most important to give prominence to those enjoyments which are most easily accessible. I have therefore discarded the methodical arrangement of *genus* and *species*, contenting myself with giving the botanical as well as the common name of each plant I mention, so that the botanical relationship may be traced by those who desire to do so.

Distributed over nearly the same number of districts—namely, over at least sixty-six out of the total number—as the little fern last referred to, is the Oak Fern, or Three-branched Polypody (*Polypodium dryopteris*), a plant whose golden-green hue is delightful. As its name indicates, the triangular frond, which grows from six inches to a foot in length, is distinctly three-branched. Each branch, starting from the top of the very slender, brittle and delicate stipes (one

taking a perpendicular and the other two a horizontal direction), is triangular in form, and again divided into pinnules, the lower series of these being subdivided into lobes, whilst the higher one is merely notched or entire. The pretty little fern occurs in woods in mountainous or moorland districts—sometimes, in such districts, in moist hedge-banks, on the margins of streams, on rocky ledges and in stony fissures, loving especially a soil of rich leaf-mould, and a position absolutely shady. Its slender rhizomas are rapid travellers, and, as they creep along the surface of the soil, they throw up numerous fronds, each of which, just before becoming unrolled, presents the curious appearance of three little green balls supported on the three main branches of the frond. I found, by experience of the nature and habits of *Polypodium dryopteris*, that little moist nooks of my garden rockery, perfectly shaded and situated a little, in some cases, above the ground, best suited the plants I had. They soon began to multiply, the rhizomas finding their way along little rocky grooves, taking root wherever any moistness lurked or seams of earth existed, and sending out speedily from their new territory crowds of their delicate little fronds.

Discoursing of the 'Oak Fern'—a ponderous name (suggested by a fancied resemblance of the frond to an

oak-tree) for a tiny plant—I am reminded that another, and very beautiful, rock-loving species—a species partial also to old walls—is exactly in the same position with regard to abundance as *Polypodium dryopteris*. The fern I mean is the Scale Fern (*Asplenium ceterach*), related to the elegant little plant family some members of which I have already passed, so to speak, in review. The Scale Fern, or Scaly Spleenwort, though sometimes only an inch or two in length, may not unfrequently be found—in positions where, in its rocky habitats, deposits of leaf-mould have been made and left undisturbed for long years—developed to a length of eight inches. A frond held at arm's length, so that its flat side was presented to view, would bear a curious resemblance to a screw, for its form is that of a single leaf so deeply and broadly indented on each side, by indentations not quite reaching down to the mid-rib, as to present the appearance of a series of lobes or of a small double edged saw with blunt teeth. The upper side of the frond is a bluish green, the under side is densely clothed, over every part, with rust-coloured or light reddish-brown scales, amongst which are ensconced the spore-cases. The stipes, very short, is also thickly set with scales of a similar colour; and the entire aspect of the little fern, when seen with all its fronds springing in tufts from its crown, is extremely

beautiful. I once found on the top of an old wall, which lay under the shelter of some overlapping trees, a great number of these pretty ferns, whose matted fibrous roots had run together and formed a mass quite a foot square. Large flat stones formed the coping of this wall, and the ferns were growing out from the under-side of these stones as well as from the crevices between them on the top. The secret of their luxuriance—for some of the fronds had attained their maximum length—was, clearly, an exceptionally large deposit of leaf-mould, augmented, from year to year, by the annual fall of leaves from the overhanging trees. The flat coping-stones afforded protection to the mass of roots by keeping them moist; and hence their vigour and luxuriance. It was from this old wall, which formed the boundary of an ancient park, that I obtained several specimens of the Scaly Spleenwort; and, before transferring them to my garden, I did not fail to note how the plants grew in their wild state, and thus discovered that their method of growth was peculiar. Most of them grew from interstices in the perpendicular face of the wall, their roots being inserted in the crevices formed by the crumbling of the mortar. Their crowns thus protruded slightly beyond the perpendicular level of the wall; but the fronds, instead of assuming an upright method of growth, as do those of

many wall, or rock-growing plants, spread around the crown, upwards, downwards, and laterally. To imitate, therefore, not only its natural conditions as to soil, moisture, and shade, but the especial position of the crown in relation to the consequent position of the fronds, was my first care. The whole process needed thoughtful consideration; but by applying this to the attempt to successfully transplant the Scale Fern from the walls where it grew I had the satisfaction of finding that my efforts were not in vain. As in the interstices of rocks as well as in those of walls there is sure to be a certain quantity of sand, it is necessary to put sand or sandy loam with the soil prepared for all wall or rock ferns grown in garden rockery.

There are, for reasons which it is not easy to explain, certain wild plants which, much less readily than others, adapt themselves to growth under extemporised conditions; and, closely as one may imitate or endeavour to imitate natural conditions, it is not always possible to succeed absolutely in the attempt. The closer the study of the natural habits of plants, the greater will always be the success in these endeavours. But failure, or partial failure, arises, doubtless, from inability to probe all the secrets of Nature.

The range of particular kinds of vegetation is, as is well known, determined by altitude or position

above the sea-level. It appears that some plants are indifferent to the variation in the pressure of the atmosphere or other peculiar conditions incident to altitude, and grow with equal luxuriance at all heights within certain maximum limits, whereas other plants are never found below or above, as the case may be, a certain level. In such cases plants which are so sensitive to these especial conditions cannot be grown successfully in a garden which does not, in the matter of position with regard to the sea-level, supply their requirements. Sometimes it is a question, not of actual existence, but of comparative luxuriance; and, though certain plants will thrive better in certain positions, they will not refuse to grow, with at least a minimum amount of vigour, in others. It is in such cases merely a question of degree. This subject is one of considerable interest, and should be separately pursued by those who have the necessary leisure. Meanwhile it is pleasant to know that a very large number of our native plants are so hardy as to be indifferent to mere position as regards their height above the sea-level; and my object in these chapters is to give especial prominence to such typical individuals as are the most hardy, the most readily obtainable, and the most easily grown in the open garden, under ordinary, and easily extemporised, conditions of growth.

One very beautiful fern (the Soft Prickly Shield Fern), amongst all those which I grew, gave me especial pleasure, from the fact that it appeared to be quite as much at home, to thrive quite as well, and to grow quite as luxuriantly, as in the country lanes where I gathered it. It only required *to be left alone*—a golden requirement with regard to all wild plants. We do not find that Nature prunes branches or 'digs around' her plant roots. She periodically loosens the surface soil by the action of frosts, and admits the essential air; but she will do this equally in our open gardens as in the woods and fields. Possibly, with regard to this especial action of frost, more loosening of the soil may be necessary in the case of some town gardens, the atmosphere over which is not of the freshness and purity of the air of the moorland and the meadow; and doubtless in the operations of agriculture and horticulture it is equally essential. But I did not find it to be so in my garden wild, and my success was due, I am convinced, to my letting Nature alone to work in her own way, only taking care that such free working was not interfered with by any artificial obstacles. To return, however, to the Soft Prickly Shield Fern (*Polystichum angulare*). It is very closely related to one which has been already mentioned (*Polystichum aculeatum*), the chief distinction being that the first-named

species is more lax and drooping in habit, and more densely clothed, on frond and stipes, with rust-coloured scales, whilst its pinnules, though wing-shaped, like those of the Hard Prickly Shield Fern, are more angular than the latter (hence the name), and are attached to the pinnæ by tiny, though distinct, stalks. Though not so widely distributed as its congener, occurring in only one half of the botanical districts mentioned by the 'London Catalogue,' whilst *Polystichum aculeatum* occurs in three-fourths of them, yet in some districts it is very abundant, being found in almost every hedge and in every copse, whilst the Hard Prickly Shield Ferns, in the same locality, are either very rare or entirely absent. Specimens of both these species can be obtained of any size, and they will be found growing most luxuriantly where the subsoil is rich loam and the surface soil leaf-mould. Plants of a moderate size are the most convenient for removal, because it is easier, in their case, to secure a sufficient quantity of earth undisturbed about their roots. I found that these ferns throve in any part of my rockery. Some large roots I obtained fully grown preserved their vigour undiminished, and the smaller ones grew steadily though slowly. Their extreme hardiness enables them to resist the hardest frosts, even in the open parts of a garden. But I never touched my Shield Ferns, having once taken

care to put them in a congenial position, and they thoroughly appreciated my treatment of them.

From these robust inhabitants of wood and hedge-bank I must turn for a little while to give the results of an interesting experiment which I tried in my garden for the growth of Marsh Ferns. *Lastrea thelypteris*, one of the Buckler Ferns, is distinctly and especially a marsh fern, growing ordinarily in the liquid soil of bogs, in which its roots and rhizomas are immersed. It is, for the reason that its range is confined to marshy or boggy districts, not very widely distributed, occurring in about forty out of a hundred and twelve botanical localities. In appearance the Marsh Buckler Fern may be said to resemble a very delicate and attenuated specimen of the Male Fern. A slender, green and very brittle stipes supports a similarly thin, delicate-green rachis, on which occur, alternately on opposite sides, a series of very narrow pinnæ, divided into small, bluntly oval-shaped, delicate green pinnules. This fern looks very pretty and graceful when seen, as I have seen it, growing along with Sphagnum moss, upon the black surface of a bog under the shadow of trees. In such congenial situations this Marsh Fern grows oftentimes in large quantities, the barren fronds—for there are two kinds—attaining a length of sometimes four feet, but the ordinary length being less. Few ferns like

their roots or rhizomas to actually touch the surface of water; but *Lastrea thelypteris* is distinctly exceptional, and its rhizomas—for its creeping habit has induced some botanists to include it amongst the Polypodies or 'many-footed' ferns—oftentimes actually float on the liquid surface of marshy places. They speedily multiply by the spreading of their rhizomas, which give rise to a network of clustered crowns, the common origin of which may be easily recognised by the connection between them—for on lifting one from the bog it will be frequently found joined to a dozen or more of others. The constituents of the liquid soil of such bogs as lie under the shelter of trees are easily discovered. The decayed moss and the mossy and other roots provide an element of peat, and the periodical fall of the leaves overhead produces leaf-mould. So in the garden it is necessary to extemporise a small marsh if it be desired to grow the beautiful *Lastrea thelypteris*. My plan was as follows. Near the end of my garden stream, just where it was about to disappear from my 'territory,' I had planted an Osier, sometimes called the Twiggy Willow. The species will be accurately indicated by its botanical name, which is *Salix viminalis*. I had obtained from the side of a wet meadow a large and vigorous specimen, and I soon succeeded in getting it to grow well, by giving it a very moist position by my

stream-side. So soon as my Osier had become well established, I had the earth removed near it to the depth of a foot, but in such a way as not to interfere with the Osier roots. The hollow thus formed I then had lined with clay to make it water-tight, and upon the clay I had a layer of peat placed, and upon the peat a quantity of leaf-mould. Upon the whole I admitted, by a small breach in the side of its channel, water from my stream. When finished, my garden marsh was just under the shade of the Osier boughs, and upon it I planted specimens of *Lastrea thelypteris*. Here and there over the marsh I raised the submerged soil by the addition of more peat and leaf-mould, and on the little mounds or tiny hillocks just raised above the general level I placed some sheets of Sphagnum moss. On the hillocks of moss thus formed I planted Hard Ferns and Spinulose, or Prickly-toothed, Buckler Ferns, reserving the marshy margins for other bog plants of which I shall have, anon, to speak. By sufficient attention to prevent any modification—such as by drought or neglect—of the conditions of growth I was thus enabled to provide, I succeeded in keeping in health and vigour my little piece of marshy ground, with its delightful accompaniment of flowering bog plants, of ferns, and of moss.

Less widely distributed than the Marsh Buckler

Ferns, another species of the genus *Lastrea* now comes in for notice, namely, the delightful Hay-scented Buckler Fern (*Lastrea recurva*). From the steep and luxuriantly clothed bank of a Devonshire 'green lane' I obtained a number of individuals of this perfumed species of the Fern family; and I lost no time in transplanting them, selecting parts of my rockery as the most congenial positions in which to grow them. I have already described the Broad Buckler Fern, and I need now only say that the Hay-scented Fern is very much like it, excepting in the matter of its smaller size, its hay scent (when drying), and its recurved pinnules, which are nearly convex (instead of concave, as in *Lastrea dilatata*) on its under side. It is an especially elegant and beautiful little fern, and a most delightful addition to a garden. It occurs in about twenty-six botanical districts out of a hundred and twelve; and, though not very rare in the districts where it is found, it is often difficult to find. I remember, many years ago, walking with an experienced fern-collector and dealer in ferns five miles to obtain my specimens. These were only to be had in one particular locality, the deep green lane to which I have already referred. Although there was an abundance of such lanes in the district, it was only in one that *Lastrea recurva* was to be found, and there it grew in such profusion that the high, leafy

hedge-bank was crowded with it. When looking for it the fern-hunter is sure to stop and examine small specimens of the Broad Buckler Fern, which bears so close a resemblance to it that at first sight the one species would be taken for the other. Size will usually be the first mark of distinction. If the plant be more than two feet in length, it is not likely to be the Hay-scented species, for the maximum length of that species is two feet, and it is usually found much smaller, whereas *Lastrea dilatata* may attain a length of five or six feet. The curving back of the pinnules, making their upper sides somewhat concave, a peculiar bluish hue of the entire frond, and especially the unmistakable hay-scent, which is always to be detected when a frond is pressed in the hand, are further distinctive marks. Leaf-mould is the life of this beautiful fern, whose luxuriance in its wild state in wood or hedge-bank may always be seen to depend upon the greater or less amount of richness of the leafy soil in which it grows, and the more or less moist or exposed situation of the plants.

In constructing my rockery I did not forget to make one portion of it of large blocks of limestone, so arranged as to leave a number of small but somewhat deep crevices for the especial benefit of the Limestone Polypody (*Polypodium calcareum*), a very interesting fern, and one of the little group three of whose attractive mem-

bers have already had mention in this chapter. Though plentiful in various limestone districts, *Polypodium calcareum* is not widely distributed, for it occurs in only nineteen out of a hundred and twelve botanical districts. It bears a strong general resemblance to the Three-branched Polypody already described, the three-branched appearance of which is occasioned by what is really an enlargement of the lowermost pair of pinnæ on the frond, each of which is nearly as large as the whole of the upper ones. The gradation of pinnæ being more regular in the Limestone Polypody, there is no appearance of three branches, as in the Oak Fern. The frond is distinctly triangular; the pinnæ are arranged upon it in opposite pairs, and each pinna is again divided into pinnules which at the base of the lowermost pinnæ are cleft deeply into oblong, blunt-pointed lobes, the compound form of division becoming less and less, as is ordinarily the case with ferns, both towards the point of each pinna and towards the apex of the frond. The Limestone Polypody is not only of larger growth than the Oak Fern, reaching a length sometimes of eighteen inches, though usually less, but has a very distinctive hue of bluish green, instead of the golden-green colour of *Polypodium dryopteris*. Its 'many feet' delight to find their way in amongst the crevices of limestone rocks, where congenial soil permits and encourages the

advance. I said that I had left small—by which I meant narrow—crevices in the limestone portion of my rockery. The reason for this was that a small surface only of the enclosed soil was thus exposed to the air, and when my ferns were planted the little cluster of the stipites of the fronds nearly filled the aperture. Moisture was thus arrested, because rapid evaporation was prevented, and the development of the rhizomas of the ferns was thus promoted. More robust than the Oak Fern, *Polypodium calcareum* can better bear exposure to sunshine; but the shadiest nooks I always found most conducive to growth. In the soil which came with my specimens were little pieces—fragments of the rock surrounding their habitat—of limestone. These fragments could be seen protruding from the lumps of soil which enclosed my roots. I did not therefore forget, in preparing the soil with which I had first half filled the crevices prepared for the limestone ferns, to put broken pieces of limestone with the leaf-mould and sandy loam. To show their appreciation of my care and attention, the year following that in which I planted them not only was there a noticeable increase in the number of fronds produced by the rhizomas which were obtained when the specimens were taken from their habitat, but new rhizomas had been produced, and had found their way by mysterious passages unknown, or at any rate pre-

viously unobserved, by me, and fronds started up from adjoining chinks of my rock-wall. One circumstance, which will serve to illustrate my previous remarks, I will mention, for the benefit of those of my readers who may like to closely imitate my *modus operandi.* The longest and finest fronds were always produced from the narrowest crevices of the rock-work. Will not fellow fern-hunters bear me out in acknowledging that, when seeking rock ferns, the finest specimens are always those most difficult to 'get out,' from their firm ensconcement behind sharp and immovable blocks of stone? Oftentimes fronds temptingly long and luxuriant peep out from inaccessible recesses in the rock-side, and the most laborious and long-continued efforts only produce a fragment of root, with perhaps a couple of fronds attached to it, and the fern-hunter has to be satisfied with one or two plants from softer or more yielding crevices adjoining. Let me repeat what I have, in substance, said before, that *a congenial position* is as essential for the free and luxuriant growth of ferns as congenial soil.

I have indicated what ferns I grew in my garden wild, and it will be seen that the number of species enumerated is twenty-four. All of these my readers can easily obtain, or at any rate can obtain with little trouble. A number of them I obtained in my own

locality. Others I myself gathered from more distant places, whilst one or two species came to me in other ways. Those species which I have omitted I did not grow in my garden—I mean in my open garden—in which I included only those about whose success I had no doubt. I think all those who may wish to follow my example will find abundant pleasure in the pastime, and quite enough to occupy their available leisure, if they are content to grow only those ferns which I have mentioned.

VIII.

FLOWERY GRASS BANKS.

NATURE offers, to the tired wanderer across summer meadows or forest glades, no more luxurious couch than that of a grassy bank bestrewn with flowers. If there are moments in life during which mere existence is a pleasure, they are surely those when the holiday-maker, seeking rest and relaxation of mind and body, after long-continued and laborious work, finds himself in the country, and absolutely free from any obligation of work—free to indulge in the luxury of doing nothing. How delicious at noontide to stretch one's 'listless length' upon the grassy face of an open meadow, and look up into the far heights of the sky at the masses of fleecy white cloud which may be floating under the eye of the sun, descrying the tiny black specks, which reveal the position of the delicious songsters, whose fresh, cheerful notes are being rained down upon the earth: how delightful to recline upon the flowery margin of a brook, and, whilst one's cheeks are softly fanned by the

gentle air set in motion by the rapid course of the current, to watch the little eddies of the stream where the water weeds are gracefully swaying to and fro: how delightful, too, whilst half reclining upon sweet fresh Grass, to lean upon one's elbow and look upon the floral wealth immediately contiguous—upon the golden Buttercups, the Daisy stars, and the delicate blush of the Cuckoo Flower—to breathe the pure breath of the green blades, and to listen to the mellow voice of the cuckoo!

I had often thought, when looking upon such scenes, how delightful it would be to bring into one's garden a bit of open field or genuine forest glade—to have, not a prim 'lawn' or close-shaven piece of 'turf,' from which conventional custom excludes every plant but Grass, but the real thing. To accomplish my desire and include in my garden 'glade' all the flowers which I wished to be there, I knew I should have to do to such an extemporised glade what artists do to their pictures when they wish to present them on a smaller scale—I should have to 'reduce' it. I must give less proportionate space to Grass, and more to other flowering plants, so as to have the variety I desired; and, just as in many a forest glade one may find several species of Grass and a great number of flowers, and in different forest glades one may find still greater variety, so I

determined to collect them in one of a moderate size—to photograph, so to speak, the larger scenes, so as to represent their salient features in my smaller scene.

The mere idea of attempting the introduction of so delightful a feature gave rise in my mind to feelings akin to enthusiasm. I cannot adequately express the pleasure I experienced in endeavouring to fulfil my intention; and that my reader may apprehend the enjoyment which the pastime actually afforded me, and the exact method which I adopted in the carrying out of my plan, I must make it clear how I proceeded. I had now completed what I may call—or at any rate what I always liked to consider as—my natural outworks. Four walls of rock that hid my garden walls from view shut me in from the outer world. In the enclosure—a wide and spacious area—there were only, as yet, my garden stream, my central pool, and the little marshy tract near where the stream disappeared under the rocks and finally took its departure. The stream I had caused to make its way along a meandering though somewhat central course; and some of the plants I grew along my stream-side, by the margin of the pool and on the marshy borders, I have already mentioned. At this period, however, in the history of my garden, little but a desert of gravel lay on each side between the stream and the rocky borders of

my ground. But I determined to carpet this desert with Grass and wild flowers, beginning at the stream-margins and carrying the green garment, on each side, towards the rocky boundaries. From the water-margin it was my wish that the grassy sward should not, in its course outwards, uniformly preserve a dead level, but should gently rise over the greater part of its area and form a series of grassy slopes—in places rising to a height of four or five feet with a rapid descent on the opposite side (towards the rockeries), but in other places preserving a level course, in such a manner that, at irregular intervals, there should be breaches in the continuity of the mounds or grass banks. It will be seen that the innermost spaces of my garden—those between the stream-sides and the crests of the grassy banks—formed a kind of dell, with a stream of water winding through its bottom. Upon the surface of this garden dell I laid the foundations of forest clumps of shrubbery by planting roots of Hawthorn, Gorse, Briar, Bramble, and Honeysuckle, sufficiently close to each other to enable them, as they grew, to mingle their twigs and foliage. Of these, however, I shall have more to say by-and-by. I had, of course, to use imported soil in large quantity for the formation of the 'ground plan' of my raised banks; and I commenced by having the earth placed in the proper

position some time before I was ready to cover it with grass or other plants. In this way ample opportunity was afforded for the necessary subsidence of the earth by successive falls of rain. I obtained, for this subsoil, the subsoil of a forest glade wherein grew Bracken and Heather; and with the peat and sandy loam which formed its chief constituents I mingled rich leaf-mould from a neighbouring wood. Then I began the work of carpeting my dell with Grass and flowers.

But the mention of Grass suggests a green world of infinite beauty. I can only tread upon its confines. It would be rash in these brief chapters to venture further, though I shall give some indications of its typical loveliness. Grass!—a word that to the unknowing and the unthinking merely means the green plant that comes everywhere and produces 'blades' in place of leaves, and an appearance which very few people recognise as flowers, but put down to be 'seeds.' Do you know, dear and unreflecting reader, that the green isles of Britain alone furnish about a hundred and twenty species of Grass? I should like to have had them all in my garden, had it been large enough. But I was content with a few of these wild flowers—for flowers, and very beautiful flowers, they are, encompassed round by the bristling awns and enclosed in glumes or chaffy-looking scales, with their stamens and pistils—all these

organs being gathered into spikelets, and these collected upon the spikes, panicles, or racemes which rise from every green place. What would the world do if it were not for its Grass—the vigorous, hardy, enterprising plants that find no place too dreary for their presence, no soil too uncongenial for at least some member of their family? Simple in structure, these interesting plants illustrate a great principle of growth in the arrangements of the vegetable world—the principle of growth from within as distinguished from growth from without, for all flowering plants come within one of these two systems of development. The development of the largest and most important part of our native vegetation is caused by external additions to bulk, the accretions being made by concentric layers of tissue, and the name *exogens* ('I produce outwards') is given to plants in this great group. Grasses, sedges, lilies, orchids, tropical palms, and others, produce their new tissues from within, and are called *endogens* ('I produce from within'). Take the nearest blade of Grass and see at once the kind of growth of which it is an example. A split sheath or cylinder gives off from its summit a blade or leaf. Within the first sheath is a second and similar one, which, rising a little above the summit of the lower one, similarly gives off a leaf. The second leaf-sheath encloses a third,

which, in its turn, rising above the second, also gives off a leaf. Thus the plant increases, each new growth—sheath and blade—emerging from within the one last formed. Similarly from within a cylindrical case rises the flowering stem, and then proceeds the process of reproduction.

There is, as I have said, a world of interest and a world of beauty in Grasses, whose floral splendour adds many a hue of tender colour to lane, field, and wood; and certainly those which are commonest and most easily obtainable are amongst the most beautiful. Let me enumerate those which I grew in my greensward, premising that each kind which I introduced I obtained in the form of what, for want of a better word, I may call a 'turf,' but a turf or lump of roots and earth, with as much soil attached underneath as I could conveniently secure—for the best soil is the native soil, and Grasses, like other plants, have their preferences and dislikes.

By my stream margins I planted eight species of wild Grass, four of these on the stream edge. One of these was the Reed Meadow Grass (*Poa aquatica*), a handsome broad-leaved plant, growing to a height of from three to five or six feet, with a conspicuous compound panicle of blossom, that opens in July, consisting of a main stem or rachis, upon which the branches

are arranged in alternation, in the form of half-whorls or half around the stem—a whorl being an arrangement of leaves, or flowers, or branches, in a circle, on the same level around a common centre. Each upright, bud-shaped spikelet on the branches consists of from four to eight florets or little flowers, the upper ones of which are the largest. The plant is recorded in seventy botanical localities.

Very distinct, both in leaf and flower, is the Floating Fox-tail Grass (*Alopecurus geniculatus*), which I placed in the same position as the Reed Grass with relation to the water. Rooting in ditches and stream-banks, the leaves of this Grass may sometimes be found floating upon the water, though this particular position is frequently, perhaps, due to a rise in the level of the water, and is consequently more or less accidental. All aquatic plants are subject to such accidents, so that their normal position with regard to the water can only be learnt by close and constant observation. The Floating Fox-tail Grass grows to a maximum height of some fifteen inches, when in congenially moist positions, but is smaller in size when growing, as it often does, elsewhere. The form of its simple flowering panicle, which is usually one or two inches long, has suggested the common name of the little group of Grasses to which it belongs, though this form does not much resemble

that of a fox's tail. It has been recorded as occurring in ninety-eight botanical districts.

Pigmies, of course, are our ordinary Grasses to the Reed (*Phragmites communis*), which is a true Grass nevertheless, and is recorded in ninety-three districts. I planted my Reeds one or two around my garden pool, and one or two along my stream, taking care, however, to put them *in* the water, so that their roots should be covered. The Common Reed grows sometimes, as every one is aware, to a height of ten feet, and it is so hardy that I anticipated little trouble in inducing it to thrive in my enclosure ; and I was not disappointed. I think none of my readers are unacquainted with the blossom of the Reed—a handsome compound panicle, drooping curiously on one side, and gracefully spreading the light-brown spikelets of which it is composed.

Another pretty aquatic species of my garden *Graminaceæ*, which I planted *in* the water, was the Water Whorl Grass (*Catabrosa aquatica*). The lower portion of this plant ordinarily floats in the water in a horizontal position, rooting in the bottom, whilst the upper portion, including the inflorescence, rises a foot or a foot and a half above it, the entire length of the plant varying from one to two feet. The blossom is in the form of a panicle with branches which are unequal in length, and are loosely spread upon the central

rachis. The leaves are short, more especially the upper ones, broad, for their length, and obtuse at their tips. Its vivid green blades, green and purple blossom, and the whorled form (hence its name) of the branches of its panicle of blossom make this 'common weed' very pretty. Eighty-one botanical districts, at least, possess the Water Whorl Grass.

A moist position *near* but not *in* the water I had to reserve for four other of my Grasses, and these I placed, in forming my greensward, immediately next the edge.

First of these let me mention the very beautiful Tufted Hair Grass (*Aira cæspitosa*), which may be only a foot when fully grown, or may be, under congenial conditions, three feet or even more in height. It is recorded in ninety-nine botanical districts, grows oftentimes in large tufts, has long narrow acute leaves, stems and leaves being rough to the touch, and the numerous spikelets which form its graceful panicle of blossom are spread, as it were, upon a system of delicate, green, hair-like stalks.

The Purple Melic Grass (*Molinia cærulea*), a plant inhabiting the damper parts of moorland country, and recorded in ninety-five botanical districts, comes next. Its leaves are of a dark-green hue, growing from a foot to two feet in length, narrow and much drawn out at

the point, and the bunchy and somewhat irregular arrangements of the short branches of its panicle of blossom give to the inflorescence, as a whole, a somewhat depauperated appearance. The flowers are empurpled by their large and conspicuous anthers, which hang out beyond the calices.

Very elegant is the third of my four moisture-loving Grasses, the Slender False Brome Grass (*Brachypodium sylvaticum*), with its acutely pointed, broad, and handsome leaves, and raceme of blossoms, cylindrical, alternately-placed spikelets, each containing about ten (in opposite rows of five each) florets enclosed in bristle-guarded awns. From one foot to two feet is the length of this Slender False Brome Grass, which may be found in not less than ninety-one botanical localities.

Last of my four damp-growing Grasses is the Spreading Millet Grass (*Milium effusum*), very properly so named. In woods and other shady places this beautiful plant may be found. It has been recorded in seventy-three districts, its length being sometimes as much as three or four feet, and its leaves short and broadly lance-shaped. Its blossom is peculiarly and characteristically elegant, consisting of a panicle, somewhat triangular in general form, on whose central rachis are set whorls of branches, bearing at the

end of long stems little clusters of spikelets. The lowermost whorls of branches droop, whilst those higher in the rachis spread outwards horizontally or upwards diagonally.

Coming now to speak of and describe the Grasses I grew indiscriminately upon my greensward, I will speak first of the commonest of all, and which falls little short of being literally 'everywhere.' This is the Perennial Rye Grass or Darnel Grass (*Lolium perenne*), which may be found in pastures a foot and sometimes two feet in height. It has sharp-pointed, lance-shaped leaves, and its blossom is in the form of a spike, with thick bushy-looking spikelets arranged in two rows alternately on the rachis of the flowering stem. It has been recorded in a hundred and three botanical districts.

Next in point of abundance to the Darnel Grass come the Crested Dog's-tail Grass (*Cynosurus cristatus*) and the Fine Bent Grass (*Agrostis vulgaris*). The first of these loves a clay soil, and I remembered this circumstance when preparing the ground immediately underneath the station I had assigned for them before putting in my specimens. It attains a length of a foot or a foot and a half, bears narrow, flat, sharp-pointed leaves, and upon the top of each flower-stem a panicle of blossom, brown when ripe, broader at the base than at the top, and with spikelets closely set

together. The Fine Bent Grass, a pretty little plant growing from a foot to fifteen inches in height, has short, flat, pointed leaves, and a panicle of prettily spreading purplish branches of spikelets. Both of the grasses I have just mentioned are very plentiful, both having been recorded as occurring in a hundred and two out of a hundred and twelve botanical districts.

A plant that loves a shady position is the Meadow Soft Grass (*Holcus lanatus*), which grows from a foot to eighteen inches and sometimes more in height, and begins to flower in July. Though so plentiful, recorded in a hundred and two botanical districts, it is very beautiful. Its leaves are flat, somewhat broad, acute at the points and hairy, and the sheaths enclosing them are downy to the touch. Its panicle of blossom, poised at the end of a long stem, is of a purplish-pink colour, somewhat triangular in shape, and consists of thickly clustered branches—less diffuse, however, when fully opened—of soft spikelets. I planted this pretty Grass on the shady sides of my clumps of wild shrubbery.

Very distinct from the one just mentioned is the Soft Brome Grass (*Bromus mollis*), with its upright hairy stem, streaked, narrow, lance-shaped, hairy, bluish-green leaves, and its simple panicle of blossom. The flower-stem is long, and the flower-panicle at its upper end consists of stalked, oval-shaped, bristling

spikelets, each of which contains about from six to ten florets. The length of the panicle is ordinarily from one to three inches, and the entire length of the plant varies much, being sometimes only a few inches, and at others a foot and a half or two feet. It is very abundant, recorded in a hundred and one districts, and will thrive on almost any soil. I adopted with this Grass the same plan as I adopted with others. Wherever I found a little patch of the particular species I wanted, I took it up, sometimes a piece about the size of a square foot, and sometimes a larger piece, cut out in the form of a turf, and of an average thickness, so that I could lay the various pieces side by side and make of them, when I had finished, a continuous greensward.

Equally common with the Soft Brome Grass was another species which I put beside it. This was the Rough Cock's-foot Grass (*Dactylis glomerata*). Its long, slightly indented, broad leaves are rough to the touch, as its name indicates; it grows to a height of two and sometimes three feet, and its blossoms consist of a compound panicle, including branches, somewhat long-stemmed, bearing, at the apex of the stems, dense, tufted, oval-shaped clusters of spikelets. Each spikelet contains about three florets, the awns of which are of a vivid green colour. The hairy roughness which characterises this Grass is noticeable in all its parts.

When its flowers are in full bloom, the stamens, rising beyond their enclosing glumes, display their anthers like little standards hoisted over embattled fortifications. Not alone in meadow and field but in almost every waste place this Grass is to be found, for it is recorded as occurring in a hundred and one districts.

The delightful odour of hay is due to the presence, amongst the drying blades, of the Sweet-scented Vernal Grass (*Anthoxanthum odoratum*). But it is not only when the Grass has been cut that this pleasant perfume is emitted. Who is there that has not often been aware of its presence when walking across summer fields on which the sun has been shining, or in the cool evening after a sunny day? To me no perfume is more sweet; and I determined that my greensward should largely consist of this pretty Vernal Grass, which flowers so early, oftentimes in April, and goes on flowering through succeeding months. It grows a foot or a foot and a half high, has pale-green, narrow, ribbed, and somewhat hairy leaves, and produces its flowers in the form of a simple, oblong, spike-like panicle, an inch or occasionally several inches in length. The spikelets are closely set on the panicle or principal spike, and, when the flowers are open, the purple, oblong anthers—widely cleft at each end—of the stamens, are projected beyond the glumes, poised at the end of the delicate stamen fila-

ments, thus making them very conspicuous. Sometimes the anthers are yellow, and the glumes also become yellow, when the seed is fully ripened. The Sweet-scented Vernal Grass is recorded in ninety-nine districts.

As abundant as the Sweet-scented Vernal Grass is the Marsh Bent Grass (*Agrostis alba*), which does not, as its name might suggest, require an especially damp position. I therefore planted it in the same situation as *Anthoxanthum odoratum*. The Marsh Bent Grass attains a length of from a few inches to two feet. Its leaves are short and narrow, and its flowers are borne in a branched panicle, which, in general form, is somewhat narrowly triangular. The branches are placed on alternate sides of the rachis, and are stalked, but they diminish in size, and the stalks diminish in length towards the apex of the panicle, thus giving it its triangular appearance.

I determined that three of the 'commonest' of meadow Grasses should find a place in my garden, and I gave them as hearty a welcome as any of the plants I had already introduced. And first, the most common was one that perhaps more than any other conveys the popular idea—to those who recognise no diversity in these interesting vegetable forms—of Grass. The species I allude to is the Annual Meadow Grass (*Poa annua*), which finds its way, so great are its hardiness, enter-

prise, and persistence, everywhere. If my reader, on perusing this last sentence, will walk into his garden, or into the nearest place where he is likely to find a bit of earth and a stray 'weed,' he will probably find that the first Grass root he encounters will be *Poa annua*. It is a little Grass, sometimes only an inch or two in length, and not exceeding a foot or fifteen inches. Its leaves are bright green and narrow, and its terminal panicle of flowers—from one inch to three in length—spreads in a triangular form, is green or purple-hued, and consists of branches placed alternately on the rachis or in opposite pairs, and divided into a number, usually from five to eight, of ovate spikelets. The Annual Meadow Grass is something more than 'annual,' for it flowers and seeds from the spring through the summer and well into autumn, so that its ubiquitousness can scarcely be a matter for wonder.

A near relative of this Meadow Grass is the next of my three common Grasses. This is the Smooth-stalked Meadow Grass (*Poa pratensis*), found in ninety-eight districts, whose slender stems reach a length of a foot, and sometimes of two feet. Its flowers are somewhat similar to those of its congener just mentioned, the panicle being triangular in shape, but the branches are arranged in separate clusters, whorl-like, around the rachis, and the glumes of its lower florets are webbed.

Next of the three comes the Roughish Meadow Grass (*Poa trivialis*), whose stems and stem-sheaths are ordinarily rough to the touch, and whose leaves are broad and acute-pointed. Its panicle of blossom is somewhat similar to that of *Poa pratensis*, as the plant seldom exceeds eighteen inches in length, and it is very abundant—equally abundant with the species I have just described.

Equally 'common' too—but none the less was it welcome in my garden—is the creeping Couch Grass or Wheat Grass (*Triticum repens*). It grows from a foot to two feet or more in height, has long, broad, acute-pointed, handsome leaves, and a spike of blossom, sometimes only two, and sometimes eight, nine, and ten inches long, consisting of oval spikelets placed in close alternation on the rachis. Each spikelet includes five or six florets, out of the glumes of which, as in the Sweet-scented Vernal Grass and in other species, peep the curious double-cleft anthers of the stamens.

The Sheep's Fescue Grass (*Festuca ovina*), a pretty little plant of a few inches in height, although sometimes as high as two feet when growing under unusually favourable conditions, I also included in my greensward. On hillsides, woods, and moors it abounds. In its small form it grows in little tufts of small, pointed blades, with tall flower-stems, at the tops of which are

the spikes of bloom, each spike ordinarily divided into oval-shaped spikelets placed in close alternation along on each side of the rachis, and, when ripening, of a purplish hue. It is recorded in ninety-seven districts.

Very common on moorlands and also on waste places where the soil is sandy is the Mat Grass (*Nardus stricta*), which forms dense little bristling tufts of rigid channelled leaves and very slender spikes of blossom, the slender lance-shaped spikelets of which, containing each one flower, are ranged in two rows on one side of the rachis. Its hardy persistence induced me to place it in my garden along with the other Grasses. It may be found in, at least, ninety-four districts.

The cylindrical flower-spikes of the Meadow Foxtail Grass (*Alopecurus pratensis*), mounted on the tops of their tall stems, and showing when their blossom is ripe the yellow anthers of the stamens, rendered them distinct enough from the species last named to induce me to place this species next to *Nardus stricta* in my garden. It is one of the most edible of Grasses, and its flat, sharp-pointed leaves are somewhat rough on both upper and under sides. It is not fond of too much moisture, though it likes an admixture of clay in the soil in which it grows. It is as abundant as the species last described.

If the flower-spikes of the Foxtail Grasses are not

much like the vulpine appendage which has suggested their name, I can hardly say I think that the name of another Grass which I grew in my garden, side by side with *Alopecurus pratensis*, has a better appellation. *Phleum pratense*, or the Cat's-tail Grass, is the species I refer to. It grows to a maximum height of two feet, but is often much less tall. Its noticeable feature is its very long cylindrical flower-spike, which is pretty uniformly oval throughout, and is sometimes as much as six inches in length. It is densely crowded by green spikelets, each of which contains a single flower. Its leaves are somewhat short, broad-pointed, and bluish green in colour. It is recorded in ninety-five districts.

My desire to introduce as much variety as possible in the contiguous Grasses of my greensward induced me to put next to *Phleum pratense* the Wavy Mountain Hair Grass (*Aira flexuosa*), an exceedingly pretty species, with very narrow, acute leaves, which grow in tufts from the crown of the plant and with a loose spreading compound panicle of flowers, the sparsely arranged spikelets of which contain each a couple of florets—the colour of the entire inflorescence being, when ripe, a rich light-brown colour. The almost hair-like leaves are of a dark-green hue, and the entire plant attains a height of from a foot to a foot and a half. Its presence has been recorded in ninety-one districts.

Growing with equal abundance is the Decumbent Heath Grass (*Triodia decumbens*), a little plant—two or three inches and sometimes a foot high—that grows on heaths and moors. Its short, narrow leaves grow in tufts, and their sheaths, slightly hairy, have a fringe of hairs at the top just where the leaf emerges. The flowers are produced at the end of a short stem in small panicles, each of which contains five or six egg-shaped spikelets. It is recorded in ninety-one districts.

I introduced two other Hair Grasses in addition to those I have already mentioned, and I planted them near my patches of Decumbent Heath Grass. The first of these was the Early Hair Grass (*Aira præcox*), which derives its common name from the early period—May—at which it flowers, and ripens its seed—early that is to say, by comparison with the other species of its genus, which are a month or two later. It is a little Grass, only a few inches, though sometimes twelve, in length. It has rather rough and narrow leaves, and numerous panicles or spikes of blossom, very upright in habit and carried upon the ends of long stems, each panicle consisting of a few closely arranged spikelets provided with bristling hairs. Ninety-two botanical districts, at least, possess this species.

The beautiful Silver Hair Grass (*Aira caryophyllea*), that is recorded in ninety districts was the next I intro-

duced. It is a little plant from six to twelve inches in length, with small, narrow, and somewhat rough leaves, and branched and spreading panicles of silvery-hued blossom, and it grows in tufts, and may ordinarily be looked for in dry and sandy spots. Its stems are sometimes purplish in colour.

All the Grasses I have thus far mentioned are so abundant that the last of them, though the least plentiful, has been recorded, as I have shown, in ninety out of the hundred and twelve botanical districts referred to in the 'London Catalogue.' Beautiful as these plants are, they will mostly thrive in poor soil, and they thus give proof of their great adaptibility for the beautification of the meanest places of the earth. One very beautiful species that I took the earliest opportunity of including in my garden greensward was the Common Quaking Grass (*Briza media*), whose beautiful, triangular-branched panicle of spreading spikelets, each of which, poised on a long and delicate stalk, is so curiously like a Scotch Fir Cone, green at first and then becoming purplish, must be familiar to almost everybody, for it is to be found in, at least, eighty-six localities.

I have not especially mentioned in each case the flowering time of the Grasses I grew, but it was scarcely necessary, because, taking them generally, they are essentially summer-flowering plants, usually blossoming

in June, and perfecting their seeds in the following month. Sometimes the processes may be a month earlier or later, but the midsummer season is usually the time when they are at the height of their glory.

The Meadow Fescue Grass (*Festuca pratensis*) found a place in my garden. It is an abundant species, recorded in eighty-three out of a hundred and twelve botanical districts. Its blades are small, narrow, and acute-pointed, and its flowers are produced in branched panicles which are alternately placed upon the rachis, and include bristling, oval-shaped spikelets of florets. It is very hardy, and will grow almost anywhere.

I have nearly finished the history of my garden Grasses, and only three remain to be mentioned. The first of these—a species recorded in seventy-eight botanical districts out of the total number—is the Wood Melic Grass (*Melica uniflora*). This very beautiful plant loves moisture and a clay soil, and acquires a length of from a foot to eighteen inches. Its leaves are long, thin, acute-pointed, and somewhat rough to the touch. But its distinct and noticeable feature is its inflorescence, which is extremely elegant, consisting of slender, branched panicles, each branch upon the main rachis having a long stem and two or three stalked spikelets, the spikelets being oval-shaped, or urn-shaped, and light brown in colour.

The pretty Wall Barley, Wild Barley, or Barley Grass (*Hordeum murinum*), is familiar to most children. Where is the country boy who does not remember to have often put a spike of this imitation barley in his sleeve in order to see how far it would travel, aided by the prickly roughness of its stem and bristling spikelets? It grows on walls or rocks, wherever there is a moist inviting seam of earth, and its crowded, bearded spikes are, in general appearance, so much like miniature barley that particular description is not necessary.

The last species which I introduced into my greensward—and there were, in all, no less than thirty-three kinds—was the Bearded Rye Grass, or Darnel Grass (*Lolium temulentum*), whose especial peculiarity is its curiously twisted or zigzag rachis, upon which are placed, in two rows, alternating with each other, the upright spikelets. This interesting Grass has been recorded in sixty-five out of a hundred and twelve botanical localities: each of its spikelets includes about five or six florets, and its leaves are lance-shaped, in form acute-pointed, rough on their surface, and slightly indented upon their edges.

My list of the Grasses I grew is now exhausted. But though I have only given about one-fourth of the number which might have been included of our native

Grasses, I have, I think, included all the types of beauty; and I especially selected the 'commonest' species, because they were so easily obtained, and were not, on that account, any the less beautiful. It is too much the habit of this world to praise and value what is rare, simply because it *is* rare, and not because of its intrinsic beauty. Whatever may be the case with some things whose rarity may be proportioned to their beauty, it is not so with plants. On the contrary, the most beautiful types are often the commonest, if beauty be estimated, not by the standard of rarity, but by elegance of form and harmony of colouring.

In describing my flowery grass banks I have first dealt with the Grass itself, in order to show that its blossom makes no small share of contribution to the beauty of the whole. But though I have thus kept my Grass flowers separate from the others which adorned my banks, it must not be understood that all my Grass was introduced first, and all my other flowers afterwards. It was very seldom that I found Grass of any kind alone. Some other field flower was certain, in some stage of its existence, to be growing with it and mingling its roots with the grass roots; and, faithful to my principles, I took them up together just as I found them, and thus transplanted them.

As on my grass-collecting excursions no plants

forced themselves, so to speak, so prominently upon my notice as the Buttercups, they are fairly entitled to be mentioned first in the enumeration of my green-sward flowers. I cannot dwell, within the limits of this chapter, upon the delightful associations which crowd in upon my mind at the mere mention of these more than harbingers of spring. It would be quite impossible to measure the enjoyment—it is so vast and far-reaching—which these charming plants have given to millions. Suffice it that the mere thought of them, and of all that they represent and suggest, is enough to excite a glow of intense pleasure even in the town-weary man in mid-winter. My readers have experienced this pleasure, and I know they will follow my description of my Buttercups and of those Buttercup relations which I introduced into my garden grass land. The Buttercups belong to a big family of varied relationships bearing the comprehensive ordinal designation of *Ranunculaceæ*—a name partly derived from the word *rana*, meaning a frog, and intended to indicate, in its application to the vegetable world, plants which love, like frogs, to live in damp places. Frogs must surely be delighted by the association—not the ordinal association—but the real association with the plants themselves. As tadpoles they must get pleasure in wriggling between the mazy green tracery of *Ranunculus aquatilis*; later they

find luxurious shade under the floating crowfoot leaves, and finally, in the meadow ramblings which vary the monotony of a waterside life, who can say that they do not intensely enjoy the sight of the golden cups which sway aloft as they look up from the cool and cosy depths of clustering grass blades?

I grew just a dozen kinds of Buttercup, or rather I should say of plants of the genus *Ranunculus*, because, though close relations of the golden flowers which covered the meadows, they were not all Buttercups. I grew these, besides the Wood Anemone and the Marsh Marigold, two plants which, if they do not come quite within that group in the arrangement of the botanists, belong nevertheless to the great order *Ranunculaceæ*.

Certainly the typical Buttercups of the fields, though so *very common*, are second to none of the interesting group for beauty. The commonest of these are the Upright Meadow Crowfoot (*Ranunculus acris*), the Creeping Meadow Crowfoot (*Ranunculus repens*), and the Bulbous Crowfoot (*Ranunculus bulbosus*). The two first mentioned of the three often grow together and are commonly confounded with each other. But one or two marks of distinction will be sufficient to note. The Upright Meadow Crowfoot—it is the leaf which is the (fanciful) crow's foot—may be only six or eight inches high, and it may be three feet, in which

case it exceeds by a foot the maximum height of *Ranunculus repens*. Its more upright habit, its more slender stems, the narrower segments of its upper leaves, and the form of its footstalks, which are cylindrical and not furrowed like those of its congener, distinguish it from *Ranunculus repens*. The rootstock, too, of *Ranunculus acris* is straight, and it is not furnished with the creeping scions which characterise the Creeping Meadow Crowfoot. The Bulbous Buttercup (*Ranunculus bulbosus*) may, as its name suggests, be distinguished from the other two by its bulbous root, or rather the bulbous character of the base of its stem, and by the circumstance that the sepals of its calyx are reflexed or bent down after the manner of the sepals of a ripe raspberry. Of the three species the Bulbous Crowfoot is the smallest, its maximum height seldom, if ever, exceeding a foot. In the matter of their distribution, whilst *Ranunculus bulbosus* is recorded in eighty-nine out of a hundred and twelve botanical districts, its two congeners are recorded in a hundred and three. Looking for these Buttercups in the fields, one may often find them almost monopolising the ground even to the exclusion in places of the ubiquitous Grass. I obtained my specimens in large patches, sometimes a foot square, without disturbing in the least their roots. They are wonderfully hardy.

There were few things more pleasant to do in all I did for my garden than to go out in May, when the fields were glowing with the gold of the Buttercups, and bring in little masses of these beautiful plants in full bloom. So successful was my method of transplantation that my plants bloomed on as if nothing had happened. The open flowers continued, as they would have done in their native fields, to hold up their sunny cups during their full term, and the buds, unopened at the time of removal, displayed their golden interiors in due course. In the matter of soil I found what I had prepared admirably suited them. But the field Buttercups are among the most contented and least fastidious of plants, and the commonest soil of any garden would please them sufficiently to induce hardy growth.

Not because it

> 'Comes before the swallow dares
> And takes the winds of March with beauty,'

nor because it is a favourite of the poets, and especially of Wordsworth, do I confess to an especial fondness for another Buttercup, the Little Celandine (*Ranunculus ficaria*), but because I never could resist the especial charm of this delightful and beautiful plant. Though I had taken several large patches into my garden, I always found it difficult to resist taking in more whenever, in succeeding seasons, I came upon them. I think

it is their earliness and their especial freshness which attract me and win my particular regard. The first sprinkling of gold upon the meadows, noticed by early wanderers afield after the cheerless reign of winter, is ordinarily believed by them, if they are not of those who observe closely, to arise from the first blossoming of premature Meadow or Creeping Crowfoot, because it is usual to look for the Little Celandine on moist hedge-banks, and on the slopes of streambanks. But closer inspection will show—it may be as early as January or February, and not often later than March or April—that the yellow cups have eight or more petals instead of the five of the better-known Buttercups; that, instead of being modelled upon the Crowfoot pattern, the leaves are heart-shaped, glossy, and beautifully veined; that their dark-green colour is contrasted by patches of lighter hue, and that stems and leaves are singularly fresh-looking, crisp, and fleshy. Though they are often spread over the entire surface of a meadow, it is mostly in the damper locality of a moist stream-bank, or on the wet slope of a wood, or on the high banks of a damp green lane, that they love to crowd. The especial moisture of clay soil attracts them, and though it is common to see large clustering patches of small plants, sometimes much larger specimens may be found, six or seven inches in length, growing under especially favourable

conditions. A curious feature of the Lesser Celandine is the little, fleshy, oblong tubers, which may be ordinarily seen attached to their roots if a plant be pulled up. These tubers have the same function as little potatoes. They serve to propagate the plant, which seldom perfects its seed. When the stems and leaves of the mature plant die away at the end of their season, the tubers remain in the ground, and, in the succeeding season, develop into little plants. I placed a number of my specimens of the Little Celandine on my stream-bank, but others I put out amongst the Grasses of my greensward. Not even the hardest of winters or the severest of frosts affected them. Each succeeding season the pretty little green, fleshy, heart-shaped leaves came up, where they had appeared before, with singular persistence.

A huge Buttercup in every sense is the Marsh Marigold (*Caltha palustris*), though it seldom grows away from the extreme water's edge, preferring to have its roots covered with water. It looks very much like overgrown specimens of the Little Celandine, its leaves being heart-shaped, deep green, and fleshy, and its leaf-stems being the same. But it has the especial Buttercup blossom, brilliant glossy yellow, with five sepals in the floral envelope. It will sometimes attain a very large size, specimens varying from six or eight inches

in height to three feet, though the maximum size is only attained under exceptionally favourable conditions. The plants of this species which I obtained for my garden I found growing in a marsh in liquid mud, which was, however, sufficiently adherent to its roots to keep these in their normal condition. I planted them quite down to the stream edge in places, so that the water touched their roots. Others I placed in my marshy tract near the edge and in the neighbourhood of my Marsh Ferns. In both cases the transplantation was successful, and their brilliant blossoms, coming so early in the year, lent an especial element of beauty to my garden. I must not forget to state that, in addition to the soil which I obtained with my roots of *Caltha palustris*, I was careful to put in the places I had selected for them subsoil of strong clay loam, and in that they succeeded admirably. The Marsh Marigold is found in, at least, ninety-nine botanical districts.

Near my Marsh Marigolds I put a few specimens of the Lesser Spearwort (*Ranunculus flammula*), a plant which grows in just the same positions as *Caltha palustris*, and bears yellow flowers of just the Buttercup pattern. It is, however, more abundant, and is recorded in a hundred and three districts. But its leaves are very distinct, and, unlike those of the Crowfoot, are lance-shaped and slightly indented. Though its yellow,

five-petalled blossoms are smaller than those of the ordinary field Buttercups, the leaves oftentimes attain a length of a foot. Of all our species of Ranunculus the Creeping Crowfoot, the Upright Meadow Crowfoot, and the Lesser Spearwort are the most widely distributed. Though not quite so plentiful, the others I grew are very abundant, and I shall speak of them in the order of their distribution.

Scarcely needing more description than that given by its name, the Ivy-leaved Crowfoot (*Ranunculus hederaceus*) may be recognised by its general Buttercup likeness when the distinction is noted that its flowers are white instead of being yellow, and that it is a little plant. It has a creeping stem, and propagates itself by throwing out rootlets from each leaf axis where the stem touches the ground. As it loves very moist positions, growing in water where it is shallow, I placed my little patches of plants, as I obtained them, close by the banks of my garden stream, letting them keep company with the other more or less aquatic members of their family. *Ranunculus hederaceus* is recorded in ninety-one botanical districts.

And perhaps the most conspicuous of these aquatic members of the family is the Water Crowfoot (*Ranunculus aquatilis*), an especially delightful plant because of its association with running water, with forest pools

and wayside ponds and streams. Who is there that cannot remember the pleasure of resting on the green margin of some brook whilst watching the waving to and fro of its submerged hairlike leaves swayed by the motion of the current, and then turning to admire the beautiful array of its golden-centred, five-petalled white blossoms? A most variable plant is the Water Ranunculus, so variable that many botanists have taken infinite pains, in the ardour of species-making, to point out such distinctions as would warrant them in giving separate names to presumed varieties. But much of the variety of this species of Ranunculus is doubtless due to accidental conditions of growth. It is interesting to note how Nature adapts this beautiful plant to its watery habitat, moulding the lower leaves, to adapt them to the passage between them of the water, into hair-like segments, whilst the upper leaves, which float on the surface of stream or pond, are of an entirely different form, being divided merely into three, or five, rounded lobes, the lobes being more or less indented. I found it best to plant my Water Ranunculus roots, at first, in the shallow parts of the stream near the edge where the water was little affected by the current. By this means the plants became established without any disturbance of their roots, or of the soil around them, by the motion of the stream.

Then, as they increased in size and number, they pushed out into deeper water, but taking a diagonal course down stream.

In the stream I also grew several specimens of the Celery-leaved Crowfoot (*Ranunculus sceleratus*), a large plant growing sometimes to a height of two feet, although more commonly met with of smaller size. It is recorded in eighty-eight districts. It has an upright, hollow stem and smooth, glossy leaves which are three-cleft, each of the three divisions or lobes being crenated, the indentations being blunt. The flowers are numerous, somewhat small in size, and pale yellow in colour; and the resulting carpels, or seed-vessels, are collected in an oblong green head, which developes as the petals die away after the periodical flowering. I planted the Celery-leaved Crowfoot exactly in the same way as I had planted *Ranunculus aquatilis*, and I found it a most vigorous grower.

I must now mention the abundant and beautiful Wood Anemone (*Anemone nemorosa*), which, though not included amongst the genus *Ranunculus*, is nevertheless a true Crowfoot, and one of the great order of *Ranunculaceæ*. I hesitate to say that I had an especial fondness for this charming plant, because my likings for plants are somewhat too universal. There is no wild plant I do not like very much. I confess—and I

should not obtrude such a confession upon my readers did I not feel that I am speaking the thoughts of very many of them—that I never tire of looking at wild plants. The contemplation of them, if they are really wild, and not the forced hybrids or monstrosities of a garden or a greenhouse, gives me an indefinable sense of pleasure. To me every growing thing is very beautiful, and if any censorious reader is inclined to sneer at what he may term my 'sentiment,' I cannot help it. I love all my wild plants; but, whatever may be my feelings with regard to the Wood Anemone, I think that those most insensible to the beauty and charm of everything in Nature could not look upon this lovely plant and its lovely blossom without feelings of pleasure. Its trifoliate, three-lobed leaves, unaccompanied by flowers, might appear at first sight, to the uninitiated, like those of delicate and finely-cut specimens of the Meadow Buttercup. But a darkness and richness of hue distinguish *Anemone nemorosa* from the Ranunculus family, and its drooping blossoms are unmistakable; for they are large white cups, an inch or an inch and a half in diameter, of six or seven pieces delicately flushed with pink, and they gracefully droop from the end of long stems. The favourite 'haunts' (the use of this word pleasantly suggests *life* and reality) of the Wood Anemone are the shady sides of forest

clumps, where they snugly nestle amongst the Grass and small undergrowth. There, always, the earth is soft and spongy by the long accumulation of fallen leaves, and there the fibres of the horizontally spreading, woody rootstocks revel in congenial soil. I brought many beautiful clumps of these delightful plants, whose roots were snugly ensconced in their leafy soil, into my garden, placing them, some in shady clefts of rockery, but most of them close by my green-sward clumps. I always took with them a lot of soil from the forest glade whence I obtained them; but I also put some leaf-mould, gathered from the same spot, into the corners I chose to grow them in; and so carefully did I transplant them that not a single leaf hung its head upon removal, and the flowers, which I often brought in full bloom from the wood, went on blooming as if nothing had happened. The Wood Anemone grows in not less than ninety-three districts.

I have already mentioned the Lesser Spearwort, and now I must call attention to its near relative the Great Spearwort (*Ranunculus lingua*), a much larger though a less common, plant, than its immediate congener. It is recorded in seventy-two districts. It has lance-shaped, indented, saw-edged leaves, and large, bright-yellow, five-petalled, though not very numerous, flowers. Its specialty is its great size, for

it is a veritable giant amongst Buttercups, attaining a height, under favourable conditions, of nearly four feet. It is essentially a water-loving Ranunculus, and I therefore planted it in my stream shallows, adopting exactly the same course as I had done in the case of my other aquatic species.

Brief mention of two other of my wild Buttercups will bring to a close my discussion of the *Ranunculaceæ* which contributed to my garden collection. These are the Pale Hairy Buttercup (*Ranunculus hirsutus*) and the Corn Crowfoot (*Ranunculus arvensis*). The prominent character of the Hairy Buttercup is indicated by its name. Though sometimes found growing to a height of two feet, it is commonly much smaller—smaller, indeed, ordinarily than the Upright, the Bulbous, or the Creeping Meadow Buttercup. It is subject to much variation, but its normal leaves are thrice-foliate and indented on their lobe-margins. The flowers are large, sometimes an inch in diameter, and stems and leaves are covered with down, by which mark it is best known. It grows in only about sixty-six districts.

The Corn Crowfoot seems to delight especially in the neighbourhood of cornfields, and grows amidst the growing corn; and it is remarkable for the narrowness of the segments into which its thrice-foliate leaves are

cut. It sometimes attains a height of two feet, though it is frequently much smaller, and its blossoms are pale yellow in colour. The succeeding carpels form a prickly head of fructification. I grew my specimens on my open grassy level, and found them thrive with hardy persistence. The Corn Crowfoot occurs in not less than sixty-five botanical districts.

Had I wished to do so, I could scarcely have avoided the Daisy (*Bellis perennis*). It is the natural ally and associate of Grass, and appears in every part of the grass world, if not in blossom and conspicuous, at least in some stage of its existence. If I had striven to keep it out of my garden wild, it would unquestionably have baffled my efforts, and appeared somewhere. It is needless to say that no plant is more abundant and more widely distributed. Possibly its old name of the 'day's eye,' from which its modern popular name is derived, may have been partly suggested by its extraordinary abundance, for the eye of the day is everywhere. I devoted two whole sloping banks, where the ground began to rise from its level near the edge of my stream, to my daisies, and there was nothing in my garden which gave me greater pleasure, and was more refreshing and delightful to the eye, than my daisy banks when, in the early summer, they were almost sheets of white with their delightful bloom. I never 'pulled

up' a daisy root, but always took my plants embedded in little clumps with the roots of Grass and sometimes of Buttercups with which their own roots were entangled. Occasionally I removed a solitary plant with perhaps one solitary flower; but much more frequently there were several of the pretty, simple little root-stocks growing together in close partnership. I always transplanted the clump with a good thickness of earth, so that their roots were not touched, and they grew even whilst I was bearing them home!

From Daisies it is natural to turn to Primroses and Cowslips. Almost as widely distributed as the beautiful *Bellis perennis*, the Primrose (*Primula vulgaris*) is equally well-known—primrose-roots crowding each other so closely in the damp corners of some copses as to allow of nothing else growing between them; the plants filling the air, when in blossom, with their especial and delightful perfume. But though the sight of a great host of Primroses is very beautiful, I think the most charming and delightful effect produced by these lovely plants is when, in the flowering time, they are distributed, not in close profusion over particular spots of level ground, but in little clusters over the wild rocky irregularities of some forest dell—in such illustrative instances as those I have in my mind's eye occupying every 'coign of vantage' by growing in every conceiv-

able position and aspect, above, beneath, around; some on level ground, some on sloping banks, some in rocky corners—nestling in semi-gloom, growing boldly in the sun; in places content with a dry and breezy position, in others revelling in the moisture-laden atmosphere of a waterfall. It is in the early season that a bit of wild woodland decked with the sweet blossoms of the Primrose looks so delightful, when the scene is bare of other greenery and of other flowers. The suddenly sweet reminder of spring when one comes, unawares, for instance, upon a bit of such genuine Primrose ground as I am describing is very delightful. It seems veritable fairyland—so much of refreshing greenness in the ample leaves and such a wealth of sulphur-coloured bloom. There was scarcely any corner of my garden in which I did not put at least one Primrose root—by my stream-margin, on my open grass bank, in my rockery. Scarcely any soil suits them so well as rich, clay loam. It is generally in the damp clay soils of copse or hedge-row that they are found growing in greatest abundance and greatest perfection. The weight of the clumps I removed, when I had earth enough to prevent any disturbance of the roots, always told me what my plants liked, and I always took care to supply them with additional earth of the same kind. Perhaps few plants in the whole of my garden gave me so much pleasure at

their particular season as did my Primroses. When all their leafing and blossoming were over, they temporarily slipped from my recollection, and my thoughts and my interest reverted to the flowers that succeeded them. Time went on and I sometimes forgot my Primroses; autumn succeeded summer, and winter autumn, and then, when the time for spring again was beginning to approach, I walked into my garden to find that empty corners were filled with green leaves and pale flowers that looked out from their nooks with lovely complacency, seeming, in the somewhat bleak, half-wintry scene, as if they had opened, by some mischance, too soon. And yet there are few plants that so well, by their form and colour, accord with the early days of unawakened spring. The Primrose is recorded in ninety-seven botanical districts.

I am tempted to trouble my readers with a little study of Cowslips. If my description should give a portion of the pleasure the study itself gave me, I shall need no apology for introducing it. The Cowslip (*Primula veris*) is a plant well worth careful examination; and for those who love the country I can conceive of no more delightful occupation by way of varying the study of Nature as a whole than a minute inspection of parts of plants which, though inconspicuous at a distance, contribute to the beauty and usefulness of the

whole. My Cowslips I had planted in various parts of my garden; many of them on the level grassy sward that ran on each side of my stream; others on the slopes which formed my green banks; others again in portions of my rockery. One plant which I had placed in a nook of rockery with a south-west aspect, though small, when I first removed it from an open meadow in the turf in which it was growing, developed so much that by the third year it had a cluster of no less than sixty leaves and six stems of flowers forming quite a little group. The central stem had fourteen blossoms, two others had each seven, two others five each, and the remaining one six. The main flower-stem of the central bunch was nine inches long, the other stems being an inch or two shorter. The minute, white, surface hairs appeared like a delicate white bloom overspreading the smooth, round flower-stems. The apex of each principal flowering stem is somewhat thickened at the point which gives origin to the short, slender stems of the individual blossoms, and at the base and outside each of these lesser stems is a small, green, lance-shaped bract. The pedicels, or little flower-stems, are of varying lengths and are curved, and the blossoms half droop, thus somewhat resembling a small bunch of keys, an appearance which may have suggested the appellation of Herb Peter, one of the common

names of *Primula veris*. The principal flower-stem and the secondary or little stems are pale green in colour, as is also the long, urn-shaped calyx of each blossom. The calyx is five-ribbed or angled, the continuation of each rib forming the apex of each of the five, pointed segments into which its upper part is divided; and, like the main flowering stem, the little flower-stems and the surface of the calyx are overspread by fine, short hairs. The long, cylindrical tube of the corolla is much narrower than the calyx-tube into the bottom of which it is inserted. Its colour, where it is covered by the calyx, is a pale yellowish green, but where it protrudes beyond the calyx-mouth it is a bright yellow. The tube is widest at the base, narrow upwards (unlike the calyx-tube, which is widest about its centre and narrow at either end), and becomes suddenly dilated just before it opens out into the five, spreading, notched lobes of its limb. The part of the corolla which is thus dilated corresponds to the portion, on its inside, where the five, oval-shaped, almost sessile, stamens are inserted; and the latter by this means have more room. Nothing can be prettier than the small, concave cup of the Cowslip flower, its colour a deep rich yellow, its five, notched segments (each, by the rounded form of the notch, becoming heartshaped) having five orange-coloured spots at their bases, one

spot at the base of each just above the upper end of the corolla-tube. At the base of and inside the corolla-tube is the round, shining-green capsule, germen, or ovary, surmounted by its straight, long, green style crowned by the stigma, which is in the form of a somewhat cylindrical head, and reaches to within a short distance of the stamens that, as we have seen, are inserted, on such short filaments as to be almost sessile, into the sides of the corolla-tube. The Cowslip flowers offer a simple example of the simplest form of umbel, and good and complete examples in each blossom of all the floral organs. The sweet perfume of each blossom, too, makes the work of carefully studying its external form and structure exceptionally pleasant and delightful. The Cowslip may be found in not less than eighty botanical localities.

My flowery grass-banks, or rather my level space of flower-bespangled Grass, would have been sadly deficient in one essential element of beauty had I omitted the Lady's Smock, Bitter Cress or Cuckoo Flower (*Cardamine pratensis*). Its very profuseness in the low-lying or water-side parts of meadows invited and suggested its presence in my garden, where I gave my plants a position by the stream side. A somewhat near relation to the Watercress, the Cuckoo Flower, in some parts of the world, is eaten in the form of salad. But I need

scarcely say I did not put mine to so useful a purpose. The plant can scarcely be unfamiliar to any of my readers. But if it should be let me just say that its height varies, according to its more or less congenial position, from six inches or a foot to two feet, and that it has two kinds of leaves, both pinnate or feather-like, the leaflets or divisions of the radical leaves—hidden usually by the Grass amidst which it is growing—being somewhat in the form of a rosette, and shorter and broader than the stem leaves, whose segments are long, narrow, and linear, or grass-like. Its pretty lilac, though sometimes white flowers, forming a little cluster at the end of rather a long stem, are what is called cruciform or cross-shaped—that is to say, its four petals are arranged in opposite pairs, which give it a cruciform appearance. Hence the Cuckoo Flower is a member of a large order of plants named the *Cruciferæ* on account of the cross-shaped arrangement of the flower petals of the plants which compose it. Its roots go down rather deep, so that, to get them up without disturbing them, attention to the fact I have mentioned is necessary. I took care to obtain soil from the spots where my plants were growing in addition to that which I took away with their roots, so as to make provision for their future wants; for the Cuckoo Flower loves a soil which is rich as well as

moist. Though so beautiful it is very plentiful, and may be found in at least a hundred out of a hundred and twelve botanical districts.

Perhaps mention of my Violets should not have been so long deferred, for these are especially flowers of the grassy bank. But before I speak of them I must explain that my Grass banks were surmounted by shrubbery whereof I made hedges; and as I do not want this history of my garden to suffer by deficiency of clearness in the detailed description I am giving of it, I must now relate what I intended to do and what I did by the raising of my grassy borders, as they spread away from my stream on either side, to the level of my tall mounds. The slope upwards was very gradual as the greensward swept away from the stream, and the surface of the ground was covered by the various Grasses and other plants I have enumerated, by clumps of wild shrubs, by little mounds whereon grew Gorse and Heather, and by little heaps of broken rocks, from amidst whose shady recesses Bracken upreared their tall and graceful fronds. But when my garden boundaries were neared, formed by the walls of rocks which shut me in from the outside world, then I had so arranged that my greensward grounds should rise more rapidly until they reached the height of ordinary hedgebanks—a height which, to be more pre-

cise and for the guidance of my readers, I must say was in places five, in others nearly six feet. Then, leaving a space at their tops of some three feet, the banks fell on the other sides almost perpendicularly to the lowest level of my garden—not including the level of the stream bottom in the comparison. Between the steep sides of these banks and the boundary of rocks there was a space of about eight feet, and an alley was formed which went round the entire bordering edge of my garden. By planting the tops of these banks with large shrubs, Hawthorn, Blackthorn, Bramble, Dogrose, and Dogwood, with here and there sapling Oak, Elm, and Maple, I had laid the beginnings of a hedge and turned the alleys between the steep sides of the banks and my encompassing and bordering rockeries into an almost continuous and nearly circular lane. I say 'almost continuous,' because I had left gaps here and there in the *entourage* of banks in order to admit more sunlight and air than could otherwise have obtained entrance, and in order, also, to give a natural irregularity or wildness to my garden scenes.

My Sweet Violets will have special mention in the description of my garden green lane. But on the greensward side of the bank which formed my lane, I grew three kinds of Wild Violet, and a fourth near the waterside, by my marshy ground. And first of these I name the Pansy or Heartsease (*Viola tricolor*), a little

plant which is recorded in a hundred and one districts, and which I am sure I need not describe even ever so slightly. In the same bank I planted the equally well-known, though not quite equally abundant, Dog or Wood Violet (*Viola canina*), often mistaken at first sight for its sweet-scented congener, though distinguished from it by its more or less upright branching stems—the leaves of *Viola odorata* springing direct from its creeping stems or 'runners.' The Dog Violet has no 'runners,' and that is another mark of distinction. It is found in sixty-seven districts. The Hairy Violet (*Viola hirta*), which grows in sixty-eight districts, is easily distinguished by the character which its name indicates, for its stems and both sides of its leaves are covered by pubescence. Though it has some short 'runners' like *Viola odorata*, they do not take root as do those of its perfumed relative. All three of these Violets, the Pansy, the Dog Violet, and the Hairy Violet, I removed with abundant earth around their roots; and the fact that in each case, though in flower when I obtained them, the blossoms did not droop and flower-buds began immediately to open, is proof sufficient that they did not suffer by transplantation. Of these, as of many other plants, I have observed that leaf-mould is the life. They are found growing either on the slope of a hedge-bank or amongst the Grass and other little plants on the sides of those raised mounds

in woods that so often are found covered by shrubbery—clumps of Gorse, Hawthorn, Dogrose, Bramble, and it may be Honeysuckle; and both kinds of position are favourable for the collection of mould from the decay of fallen leaves. The Violet I grew by the margin of my garden marsh was *Viola palustris*, the Marsh Violet, a species that is recorded in eighty-five districts and is distinguished by the length of its leaf-stems, the smoothness of its leaves, and their very distinct heart shapes. Its rootstock is white and scaly, and its leaves are crenated along their margins. Though like the Sweet Violet, the absence of perfume will enable it to be easily distinguished.

In the same banks on which I grew my Violets, I planted a number of Lords and Ladies. The Cuckoo Pint, Wake Robin, or Lords and Ladies (*Arum maculatum*) always had a charm for me, partly perhaps because of its familiarity and abundance, but also, and I think chiefly, because it is one of the very earliest of green things that push above the bare and leafless sides of wintry hedge-banks on the approach of spring. I think the curious purple blotches on the arrow-shaped leaves, the singular green hood or *spatha* which, opening on one side, discloses the curious, purple, club-like arrangement within—the *spadix* so wonderfully resembling a poker rising up like a spectre from the unseen

depths of the *spatha*—these peculiar features must, I think, have impressed me very much when a schoolboy, and created a sort of feeling akin to fascination at the sight of this most interesting plant. Banks, including wayside banks, are its favourite habitats. It grows in seventy-six districts. So distinct is the autumnal aspect of the Cuckoo Pint from its earlier appearance that those who are not in the secret would not recognise the green, single stem surmounted by the oblong blunt spike of glossy red berries that represents the seeding time of the plant; for in autumn all its spring and summer habiliments have been cast aside—arrow-shaped leaves, convolute hollow chamber, and strange-looking spadix. These have died away, and the half-hidden fructification, which in the spring was inconspicuously placed upon the lower part of the emerging purple-headed, fleshy-looking poker, has become greatly developed, and has assumed the brilliant red flush of glossy ripeness. The spring, as early in the season as possible, is of course the time for conveniently removing *Arum maculatum* from its hedge-side retreat. But it must be remembered that its tuberous, underground stem or root goes down somewhat deeply into the earth, and that to get the whole plant up intact, so that it will proceed, unchecked, with its curious operations, great care must be taken. Though it is best to plant it on a

bank, it may be put in some deep, earthy hollow of garden rockery, so that its roots may have room.

In my grassy level and on my grassy banks I soon introduced the Speedwells. The pretty little group have a strong family likeness. The oval, heart-shaped leaves with edges plain or indented and, ordinarily, hairy, and the bluish or purplish-blue wheel-shaped four-cleft flowers, the lowest segment or division in each blossom being smaller than the rest, together with the reddish or purplish-red hue which oftentimes overspreads the leaf and flower stems, are features which must render the little group generally familiar to those who know anything of field flowers. I must mention first the Thyme-leaved Speedwell (*Veronica serpyllifolia*), the most widely distributed of them all, growing commonly by waysides and in field hedge-banks, and found in not less than a hundred and two districts. Its small, oval leaves are placed in opposite pairs upon its stem, which branches close to the ground. Its light-blue flowers are crossed by veins of darker colour, and the downiness of leaf and stem depends upon the moistness of its position; for the more damp the situation the less hairy is the plant.

The Germander Speedwell (*Veronica chamædrys*) I grew upon the slopes where the greensward began to rise rapidly upwards and the ascent was steep. On this

pretty, widely distributed, and familiar plant, which is recorded in a hundred and one districts, the purplish-blue flowers grow, as they mostly do in all the species, in racemes upon long stems which spring from the axils of the leaves—stems which are often tinted with red. It has an undivided stem, and egg-shaped, indented leaves which are very hairy and have a crumpled appearance by the deep furrowing of their surfaces caused by the course of the veins. The leaves occur at somewhat distant intervals along the stem, and in opposite pairs. On hedge-banks and in fields the pretty flowers of the Germander Speedwell may often be seen in abundance, the general blue or purplish blue of the colouring being contrasted by the darker lines which traverse the petals.

Sometimes meadows and other grassy spaces are thickly scattered over with the beautiful blossoms of the Field Speedwell (*Veronica agrestis*). Its blossoms are the prevailing Speedwell colour, but the blue is light in shade and gives a singularly fresh appearance to the spot on which they grow when their flowering season is at its height, and the flowers are growing, as they oftentimes do, in abundant clusters. All parts of *Veronica agrestis*—main stems, leaves, leaf-stems, and flower-stems—are thickly covered by hairs. The little plant grows to a height of a few inches only—six or eight,

though sometimes twelve. It is branched at the base of the stem, and the egg-shaped, deeply indented leaves are usually found placed in opposite pairs. It has been recorded in ninety-six botanical districts. I planted some of my specimens upon my grassy level, and others upon the slopes, always removing them with an abundance of soil around their roots.

I must not forget to mention my Common Speedwell (*Veronica officinalis*), whose stems are what is called procumbent; and hence where it touches the ground about the axils of its leaves, it there takes root. The racemes of flowers, which are light-blue in colour, but are traversed by veins of a darker hue, are long and are supported by long stems; but though the plant is itself procumbent, the flower-stems start erect from the axils of the leaves. The Common Speedwell is very abundant, and may be found on heaths and commons, in fields, in woods, and on banks, extending over ninety-nine districts. As the Speedwells I have mentioned are almost equally plentiful, nearly all occurring in nearly the whole of the botanical districts enumerated by the 'London Catalogue,' visits to hedge-sides or open fields in the flowering seasons are likely to be rewarded by the discovery of some members of the attractive family.

Another very plentiful and also very beautiful little

plant, which I grew on the steeper slopes of my grassy banks, must come in for a share of attention. This is the Ground Ivy (*Nepeta glechoma*), a species which is one of the *Labiatæ*, the extensive order of plants with lip-shaped blossoms—of which the Pea blossom is perhaps one of the most familiar examples—and is no sort of relation of the Ivy proper, though its leaves have a not very distant resemblance to those of our familiar evergreen trailer. The Ground Ivy is a quick traveller, for its leaf-stems trail upon and creep along the ground and take root at their joints, whence also, above the rooting points, the flowering stems—six or seven or eight, or it may sometimes be eighteen, inches in length—arise, giving off in their turn the rounded, obtusely-lobed, hairy, and sometimes empurpled leaves and the purple, lip-shaped flowers, which are arranged in the form of a half-circle around the joints whence they take their origin. When upon a sunny bank, a rich glow of colour, red and purple, oftentimes overspreads the surface of stems and leaves. It is always easy to get up the roots of *Nepeta glechoma* with abundance of earth, and those I grew were not in the least prejudicially affected by the change from their wild bank to my garden wild. The little plant is reported to have been found in ninety-one botanical districts.

In few spaces of wild, grassy sward need one look in

vain for the pretty, golden flowers of the Tormentil (*Potentilla tormentilla*), so much like, at first sight, and oftentimes, doubtless, mistaken for, Buttercups in miniature. But, apart from the smaller size of the blossoms, the petals of the Tormentil are ordinarily four in number, each laterally separated from the other and broadly heart-shaped, whilst the Buttercup petals are in number five, and overlap to form the 'cup.' The leaves of the Tormentil have no foot-stalks, and consist of from three to five, though usually three, leaflets, which are oblong, wedge-shaped, and deeply cut or serrated.

Very much like the Tormentil, only larger in leaf-stem and blossom, is the Common Creeping Cinquefoil (*Potentilla reptans*). As its name indicates, its leaves are five-cleft, and each leaflet of the five is oblong or wedge-shaped and deeply serrated. The flowers, besides being larger than those of the Tormentil, have five instead of four petals. But the shape of these is similar in both plants. With their little clumps of grass roots I took up many of either species for my garden wild. These indeed, with my Buttercups and Daisies, I grew in greater abundance than any other of my flowers in the levels of my spaces of grassy sward, and for the reason that, when my Buttercups had ceased to flower in the summer's prime, my Tormentils

and Cinquefoils went on blooming into gold right into the latest month of summer, and oftentimes far into the autumn. The Tormentil is found in not less than ninety-nine botanical districts, and the Creeping Cinquefoil in not less than seventy-eight.

I had almost forgotten my Clovers, of which I grew two kinds, the Common Red or Purple Clover (*Trifolium pratense*), and the White Clover (*Trifolium repens*). I am sure I need not describe them, because they are the 'commonest' of all the pretty, three-leaved fraternity or sisterhood, each having been recorded in a hundred and three districts; and those who know Grass when they see it also know Clover, which comes everywhere, often unbidden.

My chapter on my flowery grass banks must end here, because I have already enumerated the principal flowers I grew upon them. But I grew others there, of which anon I shall give some account.

IX.

A GARDEN GREEN LANE.

In the prime of leafy summer few things are more delightful than a saunter through a green lane—a genuine green lane where vegetation grows free and wild; where the pathway is invaded by wild flowers, leaving at most, in the centre, a narrow passage for the pedestrian; and where high banks, on either hand, occasionally 'close in,' and foliage, overarching, shuts out the sunshine. If in wild country, where, though rocks abound, the soil is rich in every intervening earthy space, and moisture is induced by many streams, the 'green lane' is a natural paradise, revealing to the explorer, where it winds through the narrowest gorge of a valley, a wild beauty which is oftentimes enchanting—high soft banks on one side, perhaps clothed with a profusion of wild vegetation; rocks on the other side, it may be soft slate rock or red sandstone, not bare and sterile, but half hidden by moss, ivy, and ferns. I can recall to my recollection many such lanes through

which I have delightedly wandered, for to walk through them has ever been to me the height of enjoyment.

Why might I not have, I had often thought, a green lane in my garden, if space admitted—a wild, winding maze of greenery? I determined to make my desire a reality, and I will tell you, dear reader, how I set about it, and how I succeeded. I have said that my garden was surrounded by walls of rockery, and by a higher and fairer rampart—of Lime-trees behind and between the rocks—a green linden boundary. Through the centre of the enclosed space ran my rock-bound stream, from whose borders on either hand spread my grassy sward, dotted here and there with clumps of shrubbery, and rising gradually until it neared the sides, when the steepness of the banks increased, so as to form running mounds, and provide the foundation for a hedge-bank. On the other side my raised mounds fell almost suddenly, leaving a space of pathway between them and the bordering rockery, varying in width from a few feet to eight or ten and, in places, twelve feet. The crest of my mounds I planted with wild shrubs and tree saplings. Of these more anon. But as they grew they formed a hedge-bank thicket. Amongst the rocks on the opposite side I here and there placed shrubs in alternation with my Lime-trees, and thus it will be easily seen that a green

winding avenue was formed. The avenue or lane wound, of course, round my entire garden; and being circular in form and the garden being of large size, the walk was continuous. I must here state, in order to preserve the clearness of my narrative and to allow my reader to follow my proceedings so closely as to be able to follow my example, that the original entrance to my garden was by a doorway through one of the four walls—that immediately next my house—which encompassed it. In the construction of my bordering rockery I made an arrangement by which the doorway was hidden from view. I built, in fact, the imitation of a pass between rocks, and I made this pass zigzag, so that on opening the garden door the garden could not be seen, but only piles of rock; and similarly the door could not be seen from the garden. In interstices of these piles of rock I planted Male Ferns, Hartstongues, and Broad Buckler Ferns, and on either side at the top of the narrow passage I placed several large specimens of Bracken. When these had become well established, their fronds formed a partial canopy of greenery. Here and there in the surrounding wall of rockery I had formed, or rather had left, similar recesses, so that it would not have been easy for a stranger admitted to the garden to find his way out.

I have already made it clear, I think, that the banks

or mounds which formed the inner boundary of my green continuous avenue were broken here and there by gaps or fissures. These, whilst relieving what would have been monotonous and unnatural had the lane been bounded on its inner side by a uniform circular bank, had also the effect of admitting sufficient air and sunshine into the interior of the avenue to conduce to the vigorous growth of the more hardy and sun-loving plants that I placed there. I had provided, in fact, for two distinct kinds of habitat, the shady and the sunny; modifications of both, and gradations from the one to the other. It is essential that my readers should clearly understand the plan of my 'green lane;' so, braving the danger of repetition, let me say that, upon emerging from the short zigzag rocky passage that led into my garden from the doorway, the visitor would find himself in a lane leading to the right and to the left. In front a break in the inner embankment disclosed a view of the full extent of my garden greensward traversed midway by the serpentine course of the stream, which entered the enclosure at a point a little to the right, passing, within sight, across the lane, entering the open expanse of the garden through one of the breaks in the bank which shut in the avenue, and passing out similarly at the further end. By turning into the lane either way—to the right or to the left—the visitor

would, from time to time, obtain a view of the central part of the enclosure, and of the stream which threaded its way along it. If from the entrance he turned to the left, the outlooks upon the greensward and the clumps of shrubbery scattered over it would be on the right-hand side, whilst if he turned to the right the occasional views would be on the left-hand side; and, whichever way he turned, he would, by proceeding onwards, ultimately return to the place whence he started.

The centre of the pathway, for a width of from two to three feet, had been hardened sufficiently by putting down a substratum of gravel and clay, and upon that small pebbles, to prevent its being invaded by grass or other vegetation. But the border, on either hand, was of softer and richer soil; the decay of leaves which fell upon it from above improved the quality of its richness, and, in the spring and summer, it was occupied by many flowering plants. Here and there, along either side of the path, I had placed large blocks of stone which might afford seats for those who desired them, whilst occasional little heaps of rockery provided desirable habitats for such ferns as the Shield and the Buckler Ferns. At all seasons and in all weathers I could make the entire circuit of my 'green lane' without inconvenience. I have already intimated that the width of this continuous avenue—for such it was—varied. In other

ways, too, I had aimed at avoiding sameness. Parts of it were open and sunny; others were immersed in shadow by the overarching of the shrubbery above. It widened and narrowed, and narrowed and widened, in no regular order, but just as one might find a natural lane; and so well did I succeed in imitating natural conditions that a few years after its formation I sometimes, in walking through it, momentarily forgot that I was in my garden, and fancied that I was in one of the rocky, ferny lanes so familiar to me in my rambles in the country.

In the space of this chapter I can only mention and describe a few of the flowers I grew in my green lane. Allusion I have already made to the ferns I planted in the crevices of the rockery which bounded it on one side; and first in the enumeration of flowering plants must come the Primroses. These I placed everywhere, in the sun and in the shade, now sparsely, now abundantly, but giving them room, in the whole circumference of my avenue. My readers must have known, to be able to appreciate, the intensity of my pleasure when, in the early flowering seasons of spring, I took what I loved to call my primrose walks around my garden wild. The sweet pale flowers came up each year with delightful regularity, and to see them crowding my half-wintry banks almost alone gave me enjoyment which words cannot adequately express.

The same journeys which procured me my Primroses served to secure me a supply of Wild Hyacinth bulbs. In the copse whence I obtained them these beautiful plants were growing together in vast numbers, and they were so closely intermingled with one another that the same large lumps of earth enclosed roots of both. Though much earlier in appearing than the Hyacinth (*Hyacinthus non-scriptus*), the Primrose flowers on into the beginning of the Hyacinth season, and both may be seen together in the height of their floral glory. But whilst the Primrose may frequently be found growing in clay soil, the Hyacinth prefers a lighter, softer, and richer soil. Hence in moving the roots of the exquisitely-scented Bluebell greater care is required to avoid disturbing them. The Wild Hyacinth is recorded as occurring in ninety botanical districts.

It was very easy to remove my Sweet Violets from the place of their growth, because the plants are so small that earth enough could be taken up with them to ensure their vigorous vitality during the remainder of their natural lives. I put them in the shadiest parts of my green lane; here and there, however, setting them where they could get a gleam of occasional sunlight; for even the most shade-loving of plants do sometimes like to coquet a little with the sunshine they commonly avoid. My violets grew well; for though they

love similar conditions of moisture, it almost seems that there must be some mysterious bond of sympathy between Hyacinths, Primroses, and Violets, because each appears to thrive better whilst in proximity with the others. The Sweet Violet (*Viola odorata*) will of course always be distinguished by its beautiful perfume. But it may be known from its very similar congener, the Dog or Wood Violet (*Viola canina*), by the circumstance that its flower-stalks spring directly from the creeping stems or scions which run along the ground, whilst the much shorter flower-stems of *Viola canina* spring from the various parts of the branched stems of that species. The twin green bracts, or little leafy excrescences, found on the flower-stalks of *Viola odorata*, are ordinarily above the middle of the stalk, whilst in the Hairy Violet, another congener which resembles it in some respects, the bracts are ordinarily below the middle of the stalk. The more hairy appearance, too, of the stems of *Viola hirta* will indicate the specific difference. I always found that, as in their native habitats, the heart-shaped leaves of my Sweet Violets became enlarged after the plants had flowered. But the blossoms, unhappily, were of much shorter duration than those of my Dog Violets, disappearing in May, whilst *Viola canina* went blooming on into August. The Sweet Violet is found in seventy-two botanical districts.

Early and special mention I must not forget to give to the grandest of all my green-lane flowers; I mean my Foxgloves, which I planted, in the sunnier parts of my banks, in rich, light earth, containing abundance of leaf-mould. The Foxglove (*Digitalis purpurea*) may be found growing to a height of four feet, and sometimes it may be discovered even higher than that; and it carried its wonderful beauty and vigour, without diminution, into my garden wild, rising to a height of quite four feet. I did not actually measure my specimens, but I am inclined to think they were really higher than four feet. I think most visitors to the country must know the long, tall, and handsome flowering stems of the Foxgloves, looking, in the wood, coppice, or hedgerow, something like floral bayonets garlanded with the large, drooping, bell-shaped, and purple-freckled-with-white flowers. Scarcely any other blossoms of the wood or hedgerow are so strikingly prominent as are those of *Digitalis purpurea*. But the plant itself, before the period of flowering, is less frequently recognised, though the large, pointed, broadly lance-shaped, and finely indented leaves, glossy above, and hoary-looking, and soft to the touch underneath, can scarcely be unfamiliar to anyone. The handsome, conspicuous leaves become smaller and smaller as the stem ascends, finally as the prolongation of

the latter becomes the flowering raceme, dwindling to mere bract-like leafy appendages. When in its full glory, and leaves and flowers are fully developed, the singularly upright, pyramidal appearance of the Foxglove renders it sufficiently distinct from any other plant likely to be growing in its particular neighbourhood. The abundance of this handsome species is sufficiently indicated by the fact that it occurs in not less than ninety-five out of a hundred and twelve botanical districts.

Very common indeed, recorded in ninety-nine districts, is another well-known hedge-flower that I grew in the banks of my green lane, and so abundant that it is to be found almost everywhere. This is the Herb Robert (*Geranium robertianum*). It is seldom that one can look into the tangled mass of greenery to be found in most wayside hedge-banks without seeing the red, hairy, branching stems, the five-angled, prettily-cut, shining leaves—growing in opposite pairs, each divided into from three to five pinnatifid, deeply-indented leaflets—and the pretty pairs of light-red flowers. The blossoms are the most immediately conspicuous part of this plant, for their long stems enable them to overtop the low, matted greenery of the hedge-bank. The Herb Robert is the most abundant of a rather large family, numbering at least a dozen members.

My hedge-banks would scarcely have looked natural had I omitted the Great Bindweed (*Convolvulus sepium*), whose large, white, bell-shaped flowers—'hedge-bells,' as they are sometimes appropriately and descriptively called—are found in many hedge-banks. The plant is found in seventy-five botanical districts. When there is no blossom, the long, green, trailing (sometimes), but generally climbing, stem, and the single, large-sized, arrow-shaped leaves, are familiar objects for recognition. The small calyx of each blossom at the base of the long tube of the corolla is not only dwarfed by the great size of the latter, but is actually hidden from view by an opposite pair of green, heart-shaped bracts, the points of which are turned upwards in such a manner that the pair half embrace the corolla-tube.

Very beautiful, though so 'common,' are the flowers of the Wayside Mallow (*Malva sylvestris*), and the dark-green, five-lobed leaves—each lobe prettily indented—the large, handsome, five-petalled flowers being light pink with veins of darker pink, each petal broadly indented at its apex. I cannot remember the earliest time of childhood when I did not know the Mallow. Its green fruit, so wonderfully like minute 'cheeses,' and called by all children after the useful product of the dairy, I have, like every school-boy, often eaten. The Mallow becomes a large plant, sometimes two or three

feet in height, though the wayside specimens are, ordinarily, half that height. I found places in the sunny parts of my lane for half a dozen Mallows, and I never regretted my selection of them as typical plants of the hedgeside and wayside. *Malva sylvestris* is recorded as occurring in eighty-six botanical districts.

I have scarcely done justice to my Dead Nettles to leave them so long unmentioned. But I gave them early attention in my garden of wildings. As it would be unnecessary to describe the nettle which 'stings,' I need only say that the leaves of the Dead Nettles are so wonderfully like their formidable namesakes that I need do no more than allude to the fact. The leaf is strikingly pear-shaped, but the curious lip-shaped blossoms are widely different from those of the Stinging Nettle, and are very singular-looking, with the tube of each corolla drawn up into a sort of hood-like canopy which is spread above the curious, lip-like projection of its lower part, suggesting a gaping mouth and throat. The blossoms are produced in whorls in the axils of the leaves, and a whorl of them is well worth a careful examination. The smaller size of the plant and the distinctive purple colour of the blossoms —the leaves, stems, and stem and leaf hairs being also sometimes empurpled—distinguish the Purple Dead Nettle (*Lamium purpureum*) from its white-flowering

congener, the White Dead Nettle (*Lamium album*). But leaf and flower in each are the same in general form. Both are widely distributed. But in this respect the 'London Catalogue' gives the palm to the Purple Dead Nettle, which it records in ninety-nine out of a hundred and twelve botanical districts, whilst the White Dead Nettle, or White 'Archangel' as it is curiously called, is recorded in only eighty-seven. The fibrous roots of both these plants are abundant, and though they will grow in almost any soil they are sure to be found most luxuriant in light, rich, sandy soil in which there is an admixture of leaf-mould.

The star-like flowers of the Stitchwort (*Stellaria holostea*), with their ten, oblong, white petals, peep out from almost every hedgeside or clump of shrubbery; and although the long, green, herbaceous stem of this plant is so fragile-looking, with its narrow, linear and grass-like leaves, and seems too delicate to struggle with coarser forms of vegetation, it is singularly hardy. Wherever it grows it is certain to overtop the dwarf shrubbery of hedgeside or forest clump; and it is so abundant as to be absent from very few places. I obtained a number of them and planted them in the ground just at the base of the thickest clusters of hedge shrubs. It was wonderful to notice how boldly they clambered into

the mass of greenery above them. Though dead to all appearance during the winter, the thin, slender stems retained their vitality, as they do when growing in copse, wood, and wayside hedgebank, and in the succeeding season the pretty, green leaves looked out from the higher parts of my shrubbery, seeming to have rapidly started from the ground—for the stems, though apparently so, are not deciduous. *Stellaria holostea* is recorded in ninety-three botanical districts.

With the most familiar masses of the tangled shrubbery of the wayside hedge-bank the Woody Nightshade (*Solanum dulcamara*) has always been associated, and I took the earliest opportunity of adding this beautiful flower to the treasures of my green lane. The woody, straggling, tenacious, flexuous stem of this interesting plant, which is so often confounded with its 'deadly' namesake, clambers through the shrubbery in which it may be growing, and displays at the top its noteworthy flowers, whose purple petals are bent with their points downwards, displaying the yellow anthers which stand up so conspicuously in the opposite direction—united into the form of a cone—as to contrast strongly with the corolla and give the peculiarly distinctive character to the blossoms. The green, glossy, and somewhat narrowly heart-shaped leaves are singly and rather sparingly distributed on the stem, and the branched corymbs of

flowers elegantly droop, giving them a first-sight resemblance to the familiar blossoms of the fuchsia. The bright, scarlet, autumnal berries of the Woody Nightshade, so conspicuous in country hedgesides, succeeding my summer flowers, added their peculiar beauty to my garden wild. The Woody Nightshade is found in not less than eighty-four botanical districts.

There are two other hedge climbers which, though not quite so common as the Woody Nightshade, I wished, moved by old associations and fond memories of them, to plant in the banks of my green lane. Though distinct from each other in essential points, I always like to give them the twin name of the Bryonies by which they are 'commonly known.' How much pleasure, by the way, do we derive in this world from common things! Popular phraseology is amongst these common things, and, in spite of all botany and of all other science, there is a strange amount of pleasure often produced by the associations called up by even the misapplied names of common objects. Gilpin, in his delightful 'Forest Scenery,' speaking of the parasitical plants, which, though 'absolute retainers,' as he calls them, nevertheless add much 'incidental beauty' to the larger plants upon which they grow, goes on to say: 'Besides this parasitical tribe the painter admires another class of humble plants, which live entirely on

their own means; yet, spreading out their little tendrils, beg the protection of the great; whom if they encumber, as they certainly do in a degree, they enrich with a variety of beautiful flowers and scarlet berries. Many of these, though classed among weeds, have great beauty. Among them the Black and White Bryonies are distinguished. The berries also of many of these little plants are variously coloured, in the different stages of their growth, yellow, red, and orange. All these rich touches, however small, produce their effect.' The Red-berried Bryony (*Bryonia dioica*) is a striking and handsome plant, with its climbing stems and conspicuous tendrils, and its large, somewhat palmate leaves, three or four inches wide, ordinarily divided into five lobes and heart-shaped at the base, the outline of each lobe being broadly indented. The flowers consist each of five, oblong lobes, and are pale green in colour, with lines of darker colour reticulating, so to speak, over the surface. Though found to be very beautiful upon examination, they are not very conspicuous in the shrubbery of the hedge-bank by reason of their pale-green hue. It was doubtless the Red-berried Bryony to which Gilpin more especially referred in the passage which I have quoted from his 'Forest Scenery;' for it is the berries of this plant which turn from green to yellow, and from yellow to orange, before they finally

assume the brilliant red which betokens ripeness. *Bryonia dioica* is found in fifty-seven botanical localities.

The Black Bryony (*Tamus communis*) I introduced into my hedge-banks also in sunny positions; for, though its roots are immersed in shade, it seeks abundance of light for its leaves and flowers. Many of my readers must personally know this plant, even though they may not know its name. Its slender, long, green, twining stems climb through the matted shrubbery of the hedge-bank or forest, oftentimes spirally ascending the trunks of trees, unfurling as it goes, alternately, on its stem, the distinctly heart-shaped, smooth and glossy leaves which twist on their long green stems into all sorts of positions. A beautiful gradation is observed by the leaves, which, from a large size at the base of the stem, five or six inches and sometimes more in length, dwindle until, at the apex of the stem, they are frequently tiny things less than an inch long. The flowers, produced somewhat sparingly in racemes, are small and green in colour, and each consists of six, oval-shaped petals. The succeeding berries are crimson. *Tamus communis* grows in sixty-six districts.

In sunny spots along my lane borders I planted many specimens of the beautiful Silver Weed (*Potentilla anserina*), the most common, and certainly very far

from the least beautiful, species of its genus. It occurs in at least a hundred and one out of a hundred and twelve botanical districts. The silky softness and silvery lustre of this plant must make it familiar to almost every frequenter of the wayside. The ordinary length of its leaves is about six inches, and their form is pinnatifid, each oblong pinna or leaflet being lance-shaped and deeply and beautifully incised on its margin. The general form of the leaf may be said to be club-shaped, the leaflets graded from the base to the apex of the stem, being at the base very tiny leafy protuberances. But between the pairs of leaflets on the lower part of the stem is a series of smaller pairs which modify and interrupt the regularity of the gradation from small to large. For the size of the plant the flowers are large. They grow singly on long stems, and each has five, rounded, deep-yellow petals and ten sepals in the green calyx underneath. By cutting out a square turf from the wayside one may secure several plants, for they grow oftentimes so densely clustered together that whole banks are covered by them. But they are always stunted in form, or finely grown, in proportion to the moistness of the position which they occupy.

Pleasant recollections of the sweet-scented hedge-sides where Thyme (*Thymus serpyllum*) grew in

abundance—recollections of the earliest of my country rambles—made me determine to devote a large amount of space to this aromatic plant. What better habitat than the banks of my green lane for the pink, much-branched stems, the small oval-shaped leaves and terminal bunches of rose-coloured, lip-shaped flowers—so delightful in the mass—of Wild Thyme? I loved to see my Thyme growing in luxuriance and not in stunted form; so I gave it a half-shady and very moist position, and it rewarded my care and grew to my heart's delight.

One more of the lip-shaped order of plants I must specially mention in the enumeration of my green-lane flowers—namely, the Bugle (*Ajuga reptans*), which often grows so abundantly in damp woods as almost to cover the ground. Its pyramidal form and the dark, purple-green colour of its leaves, together with its axillary whorls of blue, lip-shaped flowers, render it sufficiently distinct and peculiar for recognition. The leaves are very simple in form, are oval in shape, and are produced in opposite pairs on the stem, the lowermost having stalks, but the upper ones being attached without stalks to the stem. The lowermost leaves are also the largest and longest, and each pair dwindles in size upwards. In the sort of concavity formed by the respective pairs of leaves grow the blossoms, in whorls, a whorl being produced in the axils of almost every

pair of leaves. It is the diminution in size upwards of the leaves and inflorescence that gives the pyramidal appearance to the Bugle. It has a creeping stem which speedily roots, and hence promotes the propagation of the plant. The Common Bugle is recorded as occurring in ninety-four districts.

Though not so common in a wild state as most of the plants in my garden, I found a place in my lane for the Lily of the Valley (*Convallaria majalis*), and then contented myself by doing the best for it—I mean letting it alone. But if less common as a wilding—it occurs in fifty-two out of a hundred and twelve districts—it is made very familiar by the abundance in which it is cultivated.

So far I have mentioned only the principal, by which I mean the best known, the most prominent and conspicuous, of the flowers and ferns which grew in my garden green lane. I grew many others, of which I shall have something briefly to say later on. I must meanwhile pause a little in order to unfold another part of my plan for the creation of my garden wild.

X.

MY HEDGE-BANKS.

THE broken circle of banks which formed the outer boundary of my continuous green lane, became, as I have already explained, the foundation for the hedge which I made. But it will be easily understood that to establish this hedge occupied some time, because I desired that the work should be done thoroughly, and the representative hedge-shrubs I wished to plant were somewhat slow growers. My previous chapter has partly anticipated this one, because I had to produce the necessary shade for several of my green-lane plants before I could bring the plants in; and the formation of my hedge, it will therefore be understood, preceded the introduction into the lane, one boundary of which it constituted, of such plants as needed absolute shade and shelter.

But it must be understood that the whole work of designing and perfecting my garden wild was performed in instalments, and I had no desire to hurry it—

for the carrying out of every detail was an enjoyable occupation; and it was delightful to watch the gradual, or rapid, as the case might be, but always certain, development of my plants. Though when quite completed, and every detail of my scheme for a garden wild had been carried out, I derived an ever-present enjoyment from looking at the result of my labours, and was never tired of wandering round and round my green lane, across my flower-sprinkled Grass, or along the border of my garden stream, I sometimes wished that I could again have the direction and superintendence of the undertaking which I had carried out so happily, or at any rate with so large a measure of success. Still, I always found plenty to do, and plenty of change. The vegetable world never remains stationary, and so there was always something new to study and admire or to watch with interest.

In seeking the shrubs and sapling trees for my hedges, it was not always practicable, on account of their size and the depth and ramification of their roots, to take up my plants without disturbance, and with soil around them. But I did this as far as I could. My hedges would doubtless have grown faster had I been able to adopt the same principles of transplantation as I did for the smaller kinds of vegetation. Hedge-shrubs are, however, very hardy, with very few,

if any, exceptions, and mine soon recovered the effects of removal, even in those cases in which I was not able to move any of the earth, in which they were growing, with the roots.

I began with Hawthorn (*Cratægus oxyacantha*), planting it here and there over my entire circle of banks, and leaving ample room for the introduction of other shrubs between the individual plants of the 'May,' as it is still pleasant to call it. Few of the common plants of the hedge-bank are so extremely beautiful as the Hawthorn. Its upright, hard, woody stem, its prettily-cut glossy leaves, three or five-lobed, the lobes acute or rounded, and its clusters of exquisitely-scented, white blossoms, are certainly second to those of no other plant in point of elegance. The shrub is so abundant everywhere that I had no difficulty in obtaining, in a wild state, all the specimens I needed. The light and almost golden green hue of the spring foliage of the Hawthorn gives to the woods where it grows abundantly their earliest aspect of vernal loveliness. The Hawthorn is found in a hundred botanical districts.

When I had planted my Hawthorns—which grew at first, after it became established, two feet each year, for the soil was rich—I commenced the introduction of the largest Dogroses I could conveniently obtain

with sufficient roots and earth, and planted them also with impartial regularity, so as to distribute them pretty well over the entire crests of my hedge-banks. A delightful wilding is *Rosa canina*, haunting one's memory with recollections of its singularly beautiful, oblong, rounded, light or dark green, and sharply-indented, glossy leaflets, and of the handsome, broad, and open petals, five in number, of its white or blushing flowers. It is so hardy that it will grow almost indifferently upon any kind of soil, so long as it is not too moist. The creeping suckers from the roots I planted, when these were well established, soon began to spread along the hedge-bank, so that my efforts to produce a thicket were admirably seconded by the plants themselves. Remembering the preference of *Rosa canina* for a somewhat dry soil, I planted the specimens I obtained in the highest and least moist positions along the extreme crest of my circular banks. *Rosa canina* is found in at least ninety-eight botanical districts.

After the Hawthorn and the Dog Rose, I planted the Sloe or Blackthorn (*Prunus spinosa*), a shrub of singular hardiness and persistence, whose indifference to soil is almost equal to that of the Dog Rose; but, like it, it needs a dry and airy position, and though it will grow it will not thrive well in a low and damp

situation. Whilst the Hawthorn stem begins to branch almost at the root, the Sloe stem grows three or four feet in height before it begins to divide. But, like the Wild Roses I planted, it soon began to help me to thicken my hedge, for its suckers made good progress, and they seemed to appreciate the room I gave them in which to spread. Had I cut them off instead of allowing them to run and increase their kind along my banks, the shrubs would perhaps have become small trees. But I did not desire them to be unnaturally large, and made it an absolute rule in my garden wild to let everything alone, and never to cut, prune, or in any other way interfere with my plants, leaving Nature in all cases to work in her own way; and to the observance of this rule I ascribe my general success. Contrasted with the elegant cutting and the brilliant gloss of the Hawthorn leaves the Sloes, side by side with them, looked somewhat sombre. In form, too, the dark, bluish-green leaf of *Prunus spinosa* is very distinct from that of *Cratægus oxyacantha*, for instead of being cut into three or five sharp pointed or rounded lobes, it is simply ovate in shape, with fine indentations upon the margin. But, as if to offer some compensation for the absence of the especial leafy beauty of the Hawthorn, the Sloe brightens the half-wintry hedge-banks by its pretty white blossoms, each made up of

five, oval-shaped petals seated in a green, five-parted calyx. The leaves are always preceded by the blossoms; and if its foliage is less elegant than that of its gayer rival, it may claim pre-eminence for the exquisite purple bloom which overspreads the later fruit. The Wild Sloe is recorded in ninety-three botanical districts.

Next in the order of planting my hedge-banks came the Field Maple (*Acer campestre*), which, growing in fifty seven botanical districts, likes a soil neither too rich nor too barren, and neither too damp nor too dry. But it likes depth for its roots, and the positions I gave my plants answered to all these requirements. I think there is no prettier leaf than that of the Field Maple to be seen in country hedges; for though a tree in reality, it often is so dwarfed as never to exceed the size of a shrub. There is much variation in the size of the leaf, and some variation also in its form and colouring; but ordinarily a reddish hue overspreads stem and leafy surface. The long, purple or red-stemmed leaf is smooth and glossy, divided into five rounded lobes which are obtusely indented, and the veins which traverse its under-sides are red in colour and very conspicuous.

Where I wanted absolute shade for hedge-bank plants, there, above, on the crest of the ridge I planted

Hazel shrubs, because, when the twigs began to multiply, I knew that the leaves would come in dense masses and shut out even the remotest possibility of sunlight for the soil immediately underneath. The golden-green hue of its foliage, too, both early in the spring and on the approach of autumn, makes it pleasantly contrast with the dark verdancy of the Sloe. The Hazel (*Corylus avellana*) is one of the first of plants to herald the approach of spring, oftentimes in January putting out, on its bare and leafless twigs, its curious blossom in the form of long cylindrical and pendulous 'catkins.' Then follow the rounded leaves, abruptly acute at their apices and slightly heart-shaped at their bases; and later on the familiar hedge nuts, first green, then richly embrowned, peep out shyly from between enshrouding foliage. The Hazel will grow in any soil, and it loves best just the positions in which it is found growing—upon hedge-banks, airy, free, and moist. The very denseness of its foliage preserves for it, in fact, the condition of moisture underneath which suits it best. The Hazel is recorded in ninety-seven districts.

I always liked the Poplars because of the eminent cheerfulness of their foliage; and the known rapidity of their growth induced me to plant some, but sparingly, upon my hedge-banks. My favourite was the Trembling Poplar or Aspen (*Populus tremula*), and I

introduced no other kind into my garden. Those I selected were little saplings, and I put them in the parts of my hedge near my garden stream; for the Poplars are moisture-loving trees, and their trembling, glossy leaves seem to need association with the sparkle of running water. The Aspen leaf is small and rounded; it has wavy indentations on its margin and a pointed apex. It has a long stem, the slenderness of which at the point of junction with the base of the leaf gives to it its characteristic tremulousness. My young trees threw out suckers which soon produced stems that helped materially to thicken the foliage of the hedge in their immediate neighbourhood. The Aspen is recorded in seventy-eight botanical districts.

I had now planted many specimens, each of half a dozen kinds, of shrub in my hedge; but there was still room for more. I next obtained some fine specimens of the Common Barberry (*Berberis vulgaris*). The leaves of the Barberry are yellowish-green in colour, egg-shaped in form, rather small in size, and finely and acutely indented, the points of the serratures being sharp and bristly. The blossoms consist of depending racemes of pretty yellow flowers—each flower having six small, oblong petals—and the stem of the bunch which starts from the axils of the leaves is protected by a set of three thorns which look as if they were placed

there to protect the inflorescence. My plants grew quickly at first, but afterwards made slower progress, flowering freely when they had become well established and producing in autumn rich clusters of scarlet berries.

Hedge-banks derive much of their beauty from the changes in the foliage of the plants which crowd them. In leafage there are the varying greens of spring, the more sober verdancy of summer, and then the autumn tinting. All the kinds I had so far introduced made various changes with the change of season, but none changed in so distinct and pronounced a manner as a very familiar shrub which I had not yet brought in. This was the Dogwood (*Cornus sanguinea*), whose vivid greenness largely augments the freshness of the summer hedges, and whose autumnal foliage, when the shrub grows in its normal profusion, dyes entire hedge-sides with purple. Its oval leaves, pointed at their apices, unindented at the margins, and provided with veins which run in pairs with marked regularity from the midstems to the leaf edges, must be familiar to the most cursory observer of roadside hedges. The flowers are produced in the crowded clusters which botanists call cymes, each blossom of four, greenish-white petals being produced at the end of a little stem which branches from the end of another stem, that takes

its origin, in common with all the flowers of the cyme, at the apex of a main flower stem. The Dogwood will grow in any soil, and is one of the hardiest of hardy wild shrubs. The plants I obtained for my hedge-banks I put in thickly together in one or two of the sunniest spots, so that I might see the effect of an empurpled mass when autumn had dyed the foliage of summer. The Dogwood is found in sixty-one botanical districts.

Gusts of fragrance from the Wild Sweet Briar momentarily conveyed to me by a passing breeze when wandering through copse, wood, or lane, had often made me long to have some of these deliciously-perfumed plants in my garden. But my wish had never been gratified until I commenced the formation of my garden wild, and then I determined that I would plant Sweet Briar in my hedges, and I sought far and wide amongst woods to which I had access for this delightful shrub, which, though it often makes its presence felt, is often sought in vain. So similar is the Sweet Briar (*Rosa rubiginosa*) in the general form and appearance of leaf and blossom to the Dog Rose that it would often be confounded with the latter but for the unmistakable indication of its identity given by its sweet scent. The footstalks of its leaves are, however, clothed with short hairs and prickles, and the margins of its leaflets are oftentimes doubly serrated, whilst their

undersides are also clothed with hairs. The Sweet Briar grows to a height of from five to six feet; its bark is a vivid green, its leaves light green, and its flowers a deep shade of pink. It likes a dry, airy position on light gravelly or chalky soil, though it will grow on any soil. The humblest country garden is seldom found to be without at least one plant of the Sweet Briar, which grows wild in not less than fifty botanical districts.

My green-lane hedge-banks would scarcely have been natural without the delightful Bramble, around which so many sunny associations cluster. I shall not describe the Bramble—I mean the Common Blackberry Bramble (*Rubus fruticosus*), because this interesting plant has a habit of compelling the attention, even of the most indifferent passer-by, to its form, character, and capabilities. But I cannot conceive of a more pleasant reminder of the country than this handsome, trailing plant, which is always beautiful in spring time, in summer, in autumn and in winter—beautiful alike in stem, leaf, flower and fruit. I planted Brambles in my hedge-banks, Brambles in my rockery, and Brambles in the shrubbery clumps on my spaces of greensward. There is no period in the history of the world during which the wild fruit of the Blackberry has not been eaten by children and by adults too, and perhaps there

is no plant which, in the same degree, is so much loved and feared as is this delightful trailer. Gilpin entertained for it a curious and inexplicable aversion, for he calls it, in his 'Forest Scenery,' 'the most insignificant of vegetable reptiles,' a strange opinion for so keen a lover of Nature. I need scarcely allude to the propagating power of *Rubus fruticosus*, for the vigour of its rooting runners or suckers is only too evident. Like many common things it prospers on common soil, seeming indeed to prefer soil that is gravelly and dry.

I left until the last the planting of the Honeysuckle (*Lonicera periclymenum*), remembering that it was not a plant to stand alone, and that it needed the more stalwart inhabitants of the hedge upon which to lean and up which to climb. Something very well worth examination is the blossom of the Honeysuckle with the long tubes and the strange twisting and curling of the upper parts of its cream-coloured corollas. Not less noticeable is the bristling group of stamens, crowned, cross-wise, by the oblong anthers which emerge from the depths of the corolla tube, but are overtopped nevertheless by the tall style of the pistil. The Honeysuckle is amongst the first plants of the hedge or woodland to put on its green dress, for the tiny leaf-buds sometimes open early in the month of January. The leaves grow in pairs, are somewhat small for the

length of the plant, ovoid in shape, pointed at their apices, glossy green above and bluish green underneath, and they are produced somewhat sparingly along the thin and wiry stems. In twining around the stems of larger plants, the Honeysuckle often compresses them so tightly as to leave the mark of its presence. Its own stems are great travellers, often wandering, in the tangled shrubbery of a hedge, a long way from the place in which its root is growing. I have seen Honeysuckle stems which had climbed up the thick trunk of an Oak, and had hung their blossoms in festoons from the branches which shot out from the fork of the tree horizontally above. Both in hedges and in clumps of forest shrubbery the hard, firm stems and branches of the Hawthorn are, on account of the facilities which they offer, most frequently selected by the Honeysuckle to climb upon. It is almost needless to say that scarcely any wild plant is more hardy than the Honeysuckle. It varies much in size, according to the position in which it grows, and it will adapt itself to almost any soil. I planted my specimens in various parts of my hedge-banks, putting them at first where they could most easily find support from the surrounding shrubbery, and then I left them entirely alone to grow freely where they would. The Honeysuckle occurs in at least ninety-nine botanical districts.

The treatment (or rather absence of treatment) which consists in letting plants alone after transplantation, succeeds far better than any kind of interference. So I found it generally, and so it proved to be with the Ivy (*Hedera helix*), which I planted next after all the shrubs I have named. No soil appears unwelcome to this familiar and delightful plant. It loves shade, at least for its roots; but once established, if the bare roots have been removed without accompaniment of earth, and replanted—and in the case of large shrubs this method of transplantation is necessary—the Ivy will grow vigorously and well. Those who take pleasure in country rambles, and have a love for the observation of growing things, will have noticed the extraordinary variety and beauty of hedge-side Ivy, especially to be remarked in the form and colouring of the leaves. Great leaves nearly six inches square; minute things of less than an inch each way; varying shades of glossy green—dark green, light green, vivid green, golden green—and red and yellow and purple, and combinations of all these colours; five angled forms, and almost endless varieties of form—all these descriptions apply to one species of Ivy: and I believe the variations to be found from the normal form of the species are all produced by varying circumstances of soil and position. I remember once spending an hour in examining the

marvellous variations of colour which existed in a mass of Ivy that covered an old and ruined wall; and I noticed that the smaller the leaf the richer and more varied was the colouring. The sunnier the aspect and the less moist the position, the smaller and more richly hued becomes the plant. The subject of Ivy is to me a very congenial one, and I could say a good deal more about it if space permitted. But if my readers would like to know much more about this most interesting plant I can refer them to a very delightful book by a very delighful writer—Mr. Shirley Hibberd —a book which is 'A Monograph of the Ivy,' is full of charming illustrations and delightful gossip, and overflows with abundant information. The writer disposes of the species makers and shows that all our British Ivies, in spite of their wonderful variations, are of one species only. I planted Ivy abundantly in all parts of my garden—in my hedge-banks, in my rockery, at the foot of my greensward clumps, and by the margins of my stream.

I have now mentioned and described all the principal plants I brought into requisition for the formation of my garden hedges. The process of making them occupied some time; but I had never spent any time more pleasantly, and I was richly rewarded by the success which crowned my efforts. Plants, like human

beings, do not like solitude. There is an influence in their association with one another that at present is scarcely understood. I believe that many species that would never thrive, if planted singly, would grow luxuriantly when in proximity to others. Part of the reason for this is doubtless the greater amount of moisture—which is the life of vegetation and which all plants more or less like—engendered by association; but this is not the entire explanation. The intermingling of roots in the soil beneath is also mutually beneficial, partly because roots and rootlets improve the mechanical condition of the soil by making it more porous, and preventing the stagnation which is fatal to the higher forms of vegetable life; but partly also for other and unexplained reasons. Some roots are said or believed to be parasitical upon others. To what extent they derive benefit from mutual juxtaposition remains a mystery in common with very much else in the natural world. When we look upon the tangled mass of greenery in an ordinary hedge-bank it seems inexplicable that so large a number of vegetable forms should be able to find sustenance in so limited a space of earth; yet in spite of what are, literally, miles of roots draining, to all appearance, the sustenance of the soil, the plants exhibit a marvellous degree of vigour and luxuriance.

XI.

CLUMPS.

My chapter-heading is not euphonious, but I trust it is suggestive to the lovers of forest glades. I do not allude to clumps of trees but clumps of shrubs—to the mixed, irregular, free, wild growths so common in woodland glades, heaths and moors. The pleasures of association made me determine to have some shrubby clumps in my garden wild. A clump is a miniature wood. There are incipient trees of various kinds—for most shrubs will become more or less tree-like under favourable conditions—there is the undergrowth, and there is too, to a small extent, the bird and insect life. I never walk into a wood or through a forest without examining some of the clumps, because they contain so much of interest. The first one visits is almost certain to contain a bird's nest. It may be that of the plain little Whitethroat; if near water that of the Reed Warbler; or it may be that of the Yellowhammer, an almost gorgeous bird, whose flight, as you

molest his domain, makes a golden flash which is almost startling. At the same moment a gaily painted butterfly, which had perhaps settled on some flower in the clump, sails airily away; and perhaps, if the sun be shining, one may espy on the green expanse of a leaf a gaudy insect with all the colours of the rainbow. These are the immediate and obvious things to note. But if the eyes be keenly directed to mark everything, a hundred objects of interest may be observed. Perhaps the clump is made up of Hawthorn, and Bramble, and Sloe, Dogrose, and Honeysuckle, with, it may be, sapling Oak and Beech, Holly and Barberry. Of ferns there is sure to be the Bracken, and there may be the Male Fern, the Broad Buckler Fern, and the Hard Fern, and perhaps the Mountain Buckler Fern. On the branches of the Hawthorn there will be moss and lichen. Below, amongst the small undergrowth, one may find several species of Grass and more than one kind of Heather. The Greater Stitchwort, the Goose-grass, the Red Robin, the Wood Anemone, the Harebell and the Wild Hyacinth are amongst the more conspicuous of the flowering plants which nestle amongst the matted branches of the larger growth which forms the clump. The prickly Gorse may be present; but this is a shrub that seems to have a fondness for growing alone and forming clumps of its own, though the

bold front it makes against intruders upon its domain does not serve to exclude the equally hardy and aggressive Bramble, and with a chivalrous tenderness it permits some of the most delicate and fragile of the flowers of the forest to grow under the shelter and protection of its rigid spines.

My garden would not have been a 'wild' had I omitted clumps from its enclosure. Of these I had several, and placed them upon the grassy spaces that spread away on either side of my stream. For one I planted Dogrose, Hawthorn, Bramble, Sloe and Gorse; for another, Maple, Sloe, Hazel, Sweet Briar, and Barberry; for a third, Holly, Broom, Honeysuckle, and Oak Saplings; for a fourth, Sweet Briar, Dogwood, Field Rose and Gorse. One or two clumps were of Gorse alone, and for the first I obtained a magnificent shrub in full blossom. The transplantation of this beautiful plant was one of the greatest of my garden successes. I had noticed one summer, when on a visit to the New Forest, the splendour of the flowering Gorse which covered the open spaces of the forest as far as the eye could see, seeming like a cloth of gold covering the surface of the ground. Why might not I have one of the golden clumps for my garden? What a pleasure and delight it would be to bring just one little bit of this lovely country with me, so that I might enjoy the brilliant

flowers of the Gorse during several months and see a renewal of its blossom in the ensuing season! I determined that I would at least endeavour to transplant a Gorse shrub in full bloom, and I thought that if the experiment were conducted with care it would succeed. I therefore employed two men with shovel and pickaxe to remove one, with sufficient of the turf and subjacent soil to prevent any disturbance of its roots and any interference with the gorgeous blossom. It was a work of some time. I superintended the operation myself, and finally had the satisfaction of seeing the beautiful shrub, all covered with its golden inflorescence, raised from the ground in a solid portion of turf which enclosed its entire root and rootlets. Bracken and other roots were embedded in the same soil, and I had the latter placed in a large wicker basket, which it just fitted. Thus snugly packed, my treasured bit of the forest was transported to my inn and thence seven miles, by gig, behind myself and the driver, to the nearest railway station. At the end of the railway journey it required the combined efforts of two porters and a cabman to lift it to the top of my cab, and by-passers in the streets through which we drove showed some surprise at the unwonted sight of a mass of Gorse in full bloom. Arrived at home I placed it in my garden—in a trench, dug the size of the large turf which contained its roots, planting it on

one side of my stream, but away from the water's edge, and arranging the level of the turf so as to correspond exactly with the level of the ground. Had a stranger visited my garden five minutes afterwards, or at any time during the next few days, he could easily have been persuaded that my Gorse shrub had always been growing in the spot where I had placed it.

XII.

'WEEDS.'

I HAVE always been a lover of what are contemptuously called 'weeds,' and I could never understand how those who profess an admiration for what they call 'wild flowers' should openly scorn, persistently maltreat, and remorselessly exterminate those inhabitants of the great world of wild flowers which happen to be so hardy and so abundant as to grow, under the most discouraging conditions, almost everywhere. Many even of those who think that there are some wildings worthy of a place in the garden refuse the slightest consideration for the claims of 'weeds,' which they ruthlessly pluck up and fling ignominiously away, should these humble plants dare to intrude upon the nicely-trimmed domain appropriated exclusively to the customary inhabitants of the garden. They would rather see bare spaces of black earth round every garden flower than the spaces occupied by 'weeds.' They do not expect to see, and they do not want to see, beauty in 'weeds,' and hence

they never look at, or carefully examine, but only roughly handle them

'Weeds' give most offence, in the eyes of their detractors, by their habit of coming uninvited into gardens. Such conduct is doubtless irritating to the horticultural mind, but I confess that for me it has an attraction. I regard the visits of these wildings, when they are so good as to come into my grounds, as a direct compliment. How have I, for instance, deserved so much consideration? What good have I ever done, or what good am I ever likely to do to the vegetable world to entitle me to such a favour? If I leave anywhere about my surroundings a plot of bare earth, Nature straightway plants it with forms of beauty, arrayed in white and green and purple and gold. It would be a poor requital for so much goodness to tear them up by the roots and fling them away to perish. I confess that it always did me good to see green things growing, and I loved my 'weeds' as much as I did my other flowers.

The very commonest of all my garden 'weeds' I found to be a plant that bears, so to speak, its 'mark of Cain' in its very name! It is the Chickweed (*Stellaria media*), prized by the birds, and hated, with bitter intensity, by the model gardener. Perhaps I may somewhat mitigate judgment on this terrible offender

if I tell those who do not happen to know, that this little plant is closely related, by what I may call blood relationship, to the beautiful Stitchworts of the lane, the field-hedge, and the forest; whose star-like flowers must have attracted the admiring attention of all wanderers from town in the spring and summer. The flowers of the Common Stitchwort or Chickweed are little noticed by reason of their inconspicuousness; for the minute white corolla is half hidden by the longer, five-parted, green calyx, and when the blossom is unopened the forms of the calyces are lost in the general mass of greenery. It is marvellous how rapidly it spreads by reason of the rooting power of its procumbent stems, and its branching habit; and it varies wonderfully in size, according to the more or less favourable conditions of growth. In spite of its commonness, and of its (to a hater of 'weeds') troublesome luxuriance, I always regarded a branched piece of Chickweed, with its delicate green stems, pretty pairs of oval, pointed leaves and little flower gems, as an exceedingly beautiful object. These plants never troubled me, and I liked them especially because they flowered nearly all the year round, opening up their bright little flowers in the chilliest days of chilly January. The Common Chickweed is recorded in a hundred and two botanical districts.

Then there were the Dandelions, whose forerunners came in aerial chariots, unasked, of course, but welcome. They grew in every possible position; in corners of rockery in my 'green lane,' upon my hedge-banks, and, abundantly, upon my greenswards. Nowhere in the early spring were their large, golden blossoms more welcome than on my open grassy levels. The Dandelion (*Leontodon taraxacum*) is well worth study and attention in all its stages of growth, in leaf, flower, and seed. The curious turning back towards the root of the points of the serratures of the leaf are sufficiently like or sufficiently suggestive of *dents de lion* to give justification for the common name of the plant.

Groundsel (*Senecio vulgaris*) also came unbidden, and I have had it in full blossom in my garden in the depth of an almost arctic winter, so full of life and vigour is it. I always felt that the mere fact of its appearing in full bloom at a time when nearly all other plants were wrapped in their wintry slumbers gave it an especial claim on my regard. I should have been inclined to think that the Dandelion and the Groundsel were equally common; but I find that the Groundsel carries off the palm for abundance, though there is not much difference between the two, the Dandelion being recorded as occurring in a hundred and one, and the Groundsel in a hundred and two out of a hundred and twelve botanical districts.

About equally common with the two 'weeds' I have last mentioned, for it is recorded in a hundred botanical districts, is the Spear Plume Thistle (*Carduus lanceolatus*), which, similarly, came unasked into my garden. But though it is perhaps the most stalwart and formidable-looking of the enemies of the gardener and agriculturist, attaining oftentimes a height of four feet and upwards, I always admired its singularly effective armour, for it is fully armed at all points—its prickly heads of blossom each crowned at the apex by the purple plume which gives its name to the plant. I never dreaded this handsome plant, and it never undesirably encroached upon my garden wild.

I have not space in this chapter to mention all the 'weeds' which grew in my garden. I have named, however, the most prominent and conspicuous, the boldest and most persistent, and—let me frankly confess my predilection—the most welcome of them all.

XIII.

OTHER FLOWERS I GREW.

To write a full and complete history of my garden wild within the compass of one small volume would be impossible. In the preceding chapters I have indicated and given some description of some of the most prominent of the plants I grew in it, giving or endeavouring to give precedence to the best known and most plentiful. I have enumerated them as nearly as possible in the order in which they were introduced, for my garden, in its complete state, took a considerable time to establish. But from beginning to end the work of making it afforded me delightful occupation. It will be supposed that I was continually adding to my stock of plants, never losing an opportunity, on the occasion of a visit to the country, of bringing in something fresh. It was in this manner that I obtained the flowering plants which will be found briefly mentioned in this chapter. I shall not refer to them in the particular order in which I introduced them, but shall, in a

general way, and for the convenience of my readers, give them very much in the order in which they will be found in botanical lists where plants are arranged according to what is known as the Natural System. The excellent 'London Catalogue' of Mr. Hewett Watson is such a list; and that will be the order, or nearly so, which will be followed in the immediately succeeding pages. Whilst giving prominence to the most abundant species, I occasionally introduced somewhat rarer plants; but there were none in my garden that could not be found in at least about half of the botanical districts of Great Britain.

The Common Meadow Rue (*Thalictrum flavum*) I put on the borders of my stream, for it loves a damp habitat and grows on river and brook margins to a height of from two to five feet. Its leaves are bi-pinnate with leaflets bright green and shining and three-lobed, each lobe being deeply indented. The flowers are pale yellow, and grow in crowded and pyramidal panicles. The Meadow Rue is recorded in sixty-one botanical districts. It will grow in any soil.

The Mountain Globe Flower (*Trollius europæus*) may be found from six to twenty-four inches in height. It has leaves not unlike the spread fingers of a hand, each segment or division of the leaf being wedge-shaped and deeply cut in or indented. The yellow petals of

the large blossoms, varying in number from five to ten, are converged into the form of a globe, and hence the common name of the plant. Its habitats are moist fields in mountainous districts, and I put my plants on the upward slopes of my grass banks, mixing some peat with the actual soil of the banks to provide for the moisture of the situation. The Globe Flower grows in fifty-six botanical districts.

My Water Lilies I planted at the end of my garden where I had extemporised a marsh, as already explained, in connection with my stream, and had thus preserved the freshness of the still water by preventing stagnation. Here I placed the White Water Lily (*Nymphæa alba*), whose great, rounded, heart-shaped leaves are sometimes a foot in diameter, and float on the water's surface. The size and magnificence of the pure white flowers, borne singly on long, round stems, and sometimes as much as five inches across, seen as they usually are resting upon and contrasting with the great green succulent leaves, can be unfamiliar to few persons who, as anglers or merely as pedestrians, have wandered by the margins of still ponds or sluggish rivers. *Nymphæa alba* is found in sixty-nine districts.

The Yellow Water Lily (*Nuphar lutea*) is more widely distributed, and occurs in seventy-eight districts. Its leathery, large, oval, bright-green leaves, heart-

shaped at their bases—the lobes formed by the indentations overlapping each other—also float upon the water. The blossoms appear singly, and each yellow flower is formed into a cup-shape by the five or six sepals of the calyx, which is the most conspicuous part of the blossom, the petals, much smaller and oblong in shape, being crowded within.

The brilliant red flowers of the well-known Corn Poppy (*Papaver rhœas*) may be seen in at least eighty-nine botanical districts, and are sometimes as much as four inches in diameter. The plant may occasionally be found a yard high, and it is not particular as to the soil in which it grows. I planted one or two near the margin of my stream; others at the base of my shrub clumps, others in my hedge-banks, where there were sunny spaces, and others again in my open, grassy levels. The lobes of the pinnatifid leaves of the Common Red Poppy are oblong in form and indented. The brilliancy of the large blossoms gave striking beauty to my hedge-banks by the contrast with the prevailing and less vivid colours.

I need not describe, but shall only state that I grew in my stream, some Watercress, whose pinnate leaves are so frequently eaten that they must be quite sufficiently familiar to everybody. But everybody has not seen the white, cross-shaped flowers nor the green

seed pods of the Watercress (*Nasturtium officinale*), and probably everybody is not aware that this edible plant sometimes grows to a length of four feet. I need scarcely refer to its abundance, but it may be interesting to state that it is to be found in not less than ninety-four botanical districts.

The Common Rock Rose (*Helianthemum vulgare*) I introduced plentifully. It is recorded in eighty botanical districts. The large, yellow flowers are very beautiful, and my rockery offered plenty of space for growing it. It is a plant of sunny habitats, and I treated it according to its natural likings, and as it sometimes grows on dry banks, I put some plants of it on dry parts of my banks. The leaves of the Rock Rose are variable in form, the upper ones small narrow and oblong, the lower ones more rounded in form. The stems are often suffused with a red hue that extends on to the backs of the leaves, which are usually hairy to a greater or less extent. The calyx consists of five sepals. Three of these are large and conspicuous, oval in shape and concave, whilst the other two are much smaller. The petals of the yellow and sometimes orange-coloured corolla are also five in number, broad, and rounded with shallow indentations in their upper margins, and the centre of the blossom is occupied by the crowded and somewhat prominent stamens. The little plant is a

few inches only in height, sometimes only two or three but occasionlly as much as ten.

In my marshy space I planted two or three specimens of the Round-leaved Sundew (*Drosera rotundifolia*), a curious little plant which is seldom found more than six inches high and always in or near marshy habitats, preferring places where the ground is very soft. The fleshy, round leaves are thickly covered with red hairs, which, exuding a kind of gummy sap, make their surfaces very sticky; so much so that small flies, when they alight on it, cannot fly away again. From the centre of the little cluster of horizontally-spread leaves the single flowering stem of each plant rises to a height of several inches, bearing on its top one-sided cymes of small, white flowers, each of five petals, seated in a calyx of four or five oval sepals. The Round-leaved Sundew occurs in at least ninety-three districts.

By the margin of the seashore, upon sandy wastes that lie beyond the reach of the tide, may often be noticed a plant a few inches—seldom exceeding six—high with numerous, branching stems, opposite pairs of oval-shaped, narrow leaves and white flowers, large for the size of the plants, each flower consisting of five, inversely heart-shaped petals and an inflated bag-like, pale-green calyx. This is the Sea Campion (*Silene maritima*), a plant that occurs in sixty-five districts.

A more common relative of the same plant (*Silene inflata*, the Bladder Campion) is found in ninety districts. The relationship between the two is at once recognised by their general resemblance; but the white petals of *Silene inflata*, though five in number like those of *Silene maritima*, are differently shaped, each petal being deeply divided into two narrow lobes. Both of them like sandy soil, and I obtained specimens of both for my garden.

To the same order of plants belongs the Ragged Robin (*Lychnis flos-cuculi*), whose common name is almost sufficiently descriptive of the plant, and whose general appearance will indicate a likeness to the Campion. Its leaves are similarly narrow and lance-shaped, and they grow in opposite pairs; but the flowers, which grow in branched, loose panicles, are very distinct by reason of the ragged-looking form of the petals of the corolla. These, of a bright pink colour, are five in number, but each petal is cut, or, as it seems, torn, into four narrow lobes or segments. The Ragged Robin grows in damp fields, by stream margins, and sometimes by the road-side, and it is so plentifully and widely distributed that it is found in at least ninety-nine out of a hundred and twelve botanical districts. I always found it easy to get up the roots of this plant without disturbance by taking a quantity of soil with them.

The sweet-scented White Campion (*Lychnis vespertina*), in leaf and flower is very much like the Sea Campion, but widely differs in size, reaching sometimes a height of three feet, though it is ordinarily not more than one or two. Stems and leaves are hairy, and each petal of the five which compose the corolla is deeply cleft, dividing it into club-shaped lobes. It may be found in seventy-seven districts.

Very similar to *Lychnis vespertina*, though more plentiful—occurring in not less than ninety-eight botanical districts out of a hundred and twelve—is the Red Campion (*Lychnis diurna*), but it is not quite so robust in habit, and it wants the sweet smell which distinguishes its white-flowered relative, when the moist coolness of evening begins to creep over field and through lane. My Red Campions I planted near my stream, because of their greater fondness for moisture, and my White Campions I planted along the banks of my 'green lane.'

I found that my pretty Corn Cockles, being annual plants, took care of themselves, and did not fail to reappear each season as their time came round. Some botanists insist upon including this plant (*Lychnis githago*) in another genus, to which they give the name of *Githago*, but without sufficient reason. It is clearly, in leaf and stem and flower, a very near rela-

tive of the other members which I have just enumerated, of the *Lychnis* family. It grows sometimes three feet high, but its height is ordinarily less than that, and not unfrequently only a foot. Its narrow, lance-shaped, opposite leaves grow in pairs, and leaves and stems are hairy. The green calyx of each flower —the flowers are large for the size of the plant—is longer than its corolla. The colour of the petals, which, in each blossom, are five in number, is a pale purple, almost approaching blue, and the form of each is heart-shaped. It is so abundant that it may be found in at least ninety out of a hundred and twelve districts. Its hardiness and wide distribution prove that soil is not of much consequence to it, and I put my plants in somewhat dry positions, but beyond that avoided any interference with them.

I could not resist the temptation to introduce into my garden wild some of the pretty little Mouse-ear Chickweeds—annual plants—of the genus *Cerastium*. The most plentiful of these—for no British plant is more common—is *Cerastium triviale*, or the Narrow-leaved Mouse-ear Chickweed, which grows oftentimes in dense patches, and will thrive almost anywhere, and in almost any soil. Its hairy stems, which branch at the base, are five or six, and sometimes more inches in height, and bear upon them at regular intervals, and in

pairs, the narrow, oblong, 'mouse-ear' leaves. There is much description in the common name of this little plant. The flowers are produced in terminal branched panicles, each branch bearing two or three blossoms, and each blossom having a hairy, green calyx of five, oval and lance-shaped segments, and a corolla of five, white, inversely-heart-shaped petals.

The Common Broad-leaved Mouse-ear Chickweed (*Cerastium glomeratum*) is recorded in ninety-eight districts. It grows to about the same size as its little mouse-ear relative just mentioned, and, though variable, is chiefly distinguished from it by the greater breadth of its hairy leaves. Its blossoms are white, and they are produced on terminal flowering stems.

In both the species just described of Mouse-ear Chickweed, the sepals of the calyx are about the same length as the petals of the corolla. In the Field Chickweed (*Cerastium arvense*), the petals are twice the length of the sepals, and the white blossoms shown against the green are consequently much more conspicuous than is the case with Chickweeds in general. When, therefore, the plants are growing together, as they often do in great abundance, they make a striking show of white blossoms. The leaves of *Cerastium arvense* grow sometimes in opposite pairs along the stems, but occasionally they are produced in fascicles,

tufts, or whorls around the stems. The stems are commonly a few inches only in height, but are sometimes as much as a foot. The species occurs in fifty-seven botanical districts.

As the little plants I have mentioned and described in the last three paragraphs are annuals, they reproduce their kind each year by the agency of seed. The horticulturist will probably consider them very 'common.' But I confess they always had an attraction for me, and I preferred always their little masses of greenery and their snow-white blossoms to the bare patches of earth which conventional horticulture loves to see between prim masses of typical garden plants.

Of the St. John's Worts, which may be found in woods, in hedges, or by stream-sides, I grew two or three species. The most widely distributed of them is the Small Upright St. John's Wort (*Hypericum pulchrum*), a plant which grows to the height of a foot or two, and has along its smooth, round, branching stems, opposite pairs of egg-shaped, stemless leaves, and large, yellow, five-petalled flowers, which grow in loose panicles at the ends of the stems. It is recorded in a hundred and one botanical districts.

Next in point of abundance is the Square-stalked St. John's Wort (*Hypericum tetrapterum*), which is recorded in eighty-eight districts. Its stem, as its name

suggests, is square, and reaches a height of sometimes two feet, and its dotted leaves are ovate in shape and grow in opposite pairs on the stem—the flowers of this species being also terminal.

The trailing habit of the branched stems of the Trailing St. John's Wort (*Hypericum humifusum*) will perhaps best indicate its specific character, as the other species are very erect in their growth. It is recorded in eighty-five botanical districts. Its flowers are lemon-coloured, and its egg-shaped leaves, which vary in size and grow in opposite pairs, are of a bright-green colour. When decaying, they become of a pinkish hue.

Its two-edged stems and the numerous pellucid dots on its leaves—clearly seen when the leaves are held against the light—distinguish the Perforated St. John's Wort (*Hypericum perforatum*) from its congeners. Its flowers are a bright yellow, and the principal stem, which attains a height of two feet, is much branched, stem and branches bearing the opposite pairs of smooth, egg-shaped leaves which are covered by pellucid dots.

Hairiness of leaf and stem is the special characteristic, as the name suggests, of the Hairy St. John's Wort (*Hypericum hirsutum*), which may be found in seventy-six botanical districts. Its large, yellow flowers are freely and abundantly produced at the ends

of the upper branches of the stem; and the height of the plant is ordinarily from one foot to two or three.

Last of my garden St. John's Worts I must mention the Tutsan (*Hypericum androsæmum*), which, growing from a foot to two feet high, is distinguished by its large, handsome, heart-shaped, opposite pairs of leaves with prominent venation, and large, yellow, handsome, five-petalled blossoms produced at the end of the stems in branched cymes. The calyx of each flower is conspicuous, and consists of five, oval, pointed sepals. It is found in seventy-one botanical districts.

Passing from yellow to blue, and from the St. John's Worts to the Cranesbill genus, I must not forget the Blue Meadow Cranesbill (*Geranium pratense*), which may be found in seventy-four districts of Britain. It is a plant which occurs in damp fields, chiefly in mountainous localities, grows to a height of three feet or more, and has opposite pairs of deeply-cut leaves, each divided into lance-shaped segments, which are sometimes five and sometimes seven in number, the segments being in their turn more or less deeply cut into more or less pointed lobes. It loves rich soil, and I planted it on the levels by my stream, giving it a moist position. The calyx is made up of five, green, pointed sepals, and the corolla above is formed of five rounded petals.

A delightful little plant, of extreme beauty, and sensitive to any care which may be bestowed upon it, is the delicate Woodsorrel (*Oxalis acetosella*), a charming occupant of forest glade and woodland dell. Few plants are more abundant or widely distributed, for it occurs in at least ninety-eight of the hundred and twelve botanical districts of the 'London Catalogue.' I brought many patches into my garden of the sweet little trifoliate plants, whose clover-like leaves sometimes densely crowd moist forest banks and glades. The trifoliate leaves are all 'radical,' which means that they do not branch, but are produced, all of them, from the root, each leaf growing at the end of a pale-green, herbaceous stem. The three leaflets are heart-shaped, oftentimes golden-green above and reddish-purple underneath. The blossoms—large for the size of the plant, which seldom exceeds two or three inches high—consist of corollas of whitish flowers, beautifully striped or veined with purple. During the daytime the leaves of the Woodsorrel are extended horizontally to receive the greatest benefit for themselves from the air and sunshine, and to afford at the same time shelter or protection from the influence of the sun-rays for the roots underneath. As evening, however, begins to close in, the leaflets droop, and the dew can thus roll from them on to the ground underneath. The little

plant will grow in any soil, but it best loves soft rich spongy leaf-mould, and is sure to thrive and prosper under the influence of conditions similar to those it is accustomed to in its native wilds. I found that I could always, in bringing Woodsorrel plants into my garden, bring with them enough of their native soil to last them for a very long time.

Into the shrubbery of my hedge-banks and also into my clumps I introduced a few specimens of the Spindle Tree (*Euonymus europœus*), which, in spite of its name, is hardly a tree, but a shrub of, ordinarily, some eight or ten feet in height, but sometimes attaining a height, under peculiarly favourable conditions, of twenty or thirty feet. Its stems and leaves are peculiarly green, and the leaves, borne along the stem in opposite pairs, are rather long, narrow, and drawn out at their points. The colour of its stalked, four-petalled flowers, which are borne in little stemmed cymes, is greenish-white, and the succeeding seed-capsules are scarlet, the leaves also assuming, in the autumn, hues of crimson and yellow. The roots of the Spindle Tree are very abundant and fibrous; but they usually keep together, and do not travel far from the root-stock, so that the removal of young plants is not difficult. *Euonymus europœus* is found in sixty-six districts.

Of the Needle Green Weed or Petty Whin (*Genista*

anglica) I grew several specimens, planting them upon my open grassy ground. The plant grows upon moors and heaths, and is recorded in eighty botanical districts. Its stem is round, smooth, and leafless in its lower unbranched part, which is invested with sharp rigid spines. The leaves and flowers are produced on the upper, terminal and thornless branches, the leaves being small in size, smooth, and lance-shaped, and the flowers, of the pea-blossom kind and belonging to the natural order *Leguminosæ*, yellow in colour.

Belonging to the same natural order as the Green Weed just mentioned, and bearing yellow, pea-like flowers, is the Broom (*Cytisus scoparius*), which I planted, as I have already mentioned, in my clumps with Holly, Honeysuckle, and Oak saplings. Its brown leaves are trifoliate, and its flowers are by comparison very large and conspicuous. The plant is recorded as occurring in ninety-nine botanical districts, and can scarcely be unfamiliar to anyone.

Growing in habitats somewhat similar to the Broom—namely, in fields, on heaths, and in woodland wastes—is the Rest Harrow (*Ononis arvensis*), another plant with flowers of the pea-blossom kind. The general appearance, indeed, of blossoms of this particular kind has been suggestive of butterflies, and hence the term 'papilionaceous' has been applied to them, the word

being, of course, a derivative of the Latin *papilio*, a butterfly. The Rest Harrow is recorded in ninety-one districts, and grows to the height of a foot and sometimes more, but it varies very much, according to its circumstances of growth, in size and habit, being sometimes erect and sometimes trailing. Its leaves are egg-shaped and finely indented along their margins, except at their basal margins, which are usually smooth or entire, and they are generally produced, along the somewhat tough and woody stems, in threes. The flowers, which are of a very beautiful rose colour, arise singly from the axils of the leaves.

Another plant of the same natural order and equally abundant is the Kidney Vetch (*Anthyllis vulneraria*), which ordinarily reaches a height of a foot. Its leaves, vetch-like, are pinnate, the undersides somewhat downy, the leaflets being oval in shape, produced in pairs along the mid leaf stem, or rachis, a single leaflet terminating the stem. The papilionaceous flowers appear in somewhat crowded, terminal heads at the end of a long stem, the heads being in pairs, and the general colour of the petals being pink or rose. I planted my Kidney Vetches upon my grassy levels, giving them a dry position, for the plant is hardy and will grow almost anywhere.

Another papilionaceous, annual flower is the pretty

Birdsfoot (*Ornithopus perpusillus*), which grows from half a dozen inches to a foot and a half high, and has pinnate leaves with oval leaflets in opposite pairs, and a terminating single leaflet at the end of the mid-stem. The flowers have crimson veins on a ground of light pink, and the elongated seed-pods growing in threes are curved and alternately dilated and contracted—dilated at the spots where the enclosed seeds lie, and contracted in the spaces between the seeds, somewhat after the manner of the pods of a pea—thus giving to them the appearance of a bird's foot. The plant grows in seventy-five botanical districts, and may be found in sandy soil, on hedge-banks, and elsewhere.

I had almost forgotten to mention my Birdsfoot Trefoils, of which I grew two kinds in my garden. The first to claim attention is the Common Birdsfoot Trefoil (*Lotus corniculatus*), a plant that attains a height of sometimes a foot, though it is oftentimes two or three inches only in height. Its stem is clothed with soft hairs, which also extend to the trifoliate leaves. The leaflets, of which a pair of the three are opposite, and the third terminates the stem—as is ordinarily the case with trifoliate leaves—are egg-shaped. The flowers, which are yellow in colour, grow in heads of a few—sometimes as many as ten—on each stem, and the long flower-stalk rises from the axils of the leaves. Accord-

ing to soil and situation, the Common Birdsfoot Trefoil varies much, the variation, however, being chiefly confined to the greater or less size of the leaves. The plant is recorded in a hundred and three districts.

The Greater Birdsfoot Trefoil (*Lotus major*) is less widely distributed, for it is recorded in only eighty-seven botanical districts; and it is chiefly distinguished from its congener just mentioned by the larger size and greater development of its parts. It is also a more vigorous plant, and attains a height of two feet, being at the same time more upright in habit. Its stems are hollow, and it is more or less hairy, according to its position as to moisture. Depending, too, upon its more or less moist position are its general growth and luxuriance.

Seldom do we pass a summer hedge-bank without espying some species of Vetch in flower; and no plant is more suggestive of lane or field. The Sweet Milk Vetch, or Wild Liquorice (*Astragalus glycyphyllus*), may sometimes be found three feet high, though ordinarily smaller. On its stems the leaves grow alternately. They are pinnate, with large pairs of ovoid leaflets and a terminal one. Its stems trail upon the ground, and its papilionaceous flowers are light yellow. The Milk Vetch is found in fifty-eight botanical districts, and grows in soil that is more or less gravelly.

Blue or bluish-purple flowers immediately distinguish the Tufted Vetch (*Vicia cracca*) from the species just mentioned. It is recorded in a hundred and two districts, and is consequently scarcely less common or widely distributed than any plant in Britain. At the ends of its pinnate leaves, whose leaflets are sometimes opposite and sometimes alternate on their mid-stem, grow branched tendrils, that assist the climbing habit of the plant, which attains a height of four, five, and occasionally even six feet, straggling through and up the shrubbery of the hedge-bank or thicket where it is found growing. Its flowers are produced in crowded racemes whose stems start from the axils of the leaves, and they are very conspicuous and beautiful, varying between the predominance or otherwise of blue or purple shades, according to circumstances of growth.

Vicia sylvatica, the Wood Vetch, is not so widely distributed as the species last described, for it is found in only sixty-seven districts. But it is a larger plant, having been occasionally found eight feet long. Like *Vicia cracca*, its pinnate leaves are terminated not by a single leaflet, but by strong branched tendrils which cling to every accessible stem or twig in the thickets in which it grows. The colouring of its flowers is produced by bluish-purple or purplish-blue veins upon a ground of white.

The Vetches which have tendrils are naturally found growing amidst shrubbery of some kind, because their climbing habits require the support of other and stouter plants. I therefore in my garden planted them at the base of my greensward clumps as well as in my hedge-banks, and left them to climb upon any and every support which came within their reach.

I must mention one more of the papilionaceous flowers of my garden wild. This was the Meadow Vetchling (*Lathyrus pratensis*), a veritable Pea by its leaf and flowers and its numerous, conspicuous, and ever present tendrils. Though the meadow has given its common name to this attractive and well-known plant, it is really an inhabitant of the hedge-bank, and meadow hedge-banks doubtless furnish it abundantly enough to warrant its appellation. It is found in a hundred and one botanical districts. Ordinarily one or two feet long, it sometimes climbs three feet through surrounding shrubbery. The leaflets, Pea-like, are produced in twos, and the bright-yellow papilionaceous flowers appear in racemes at the end of long axillary stalks.

To the shrubs and sapling trees of my hedge-banks I added the Wild Cherry (*Cerasus avium*), a delightful wilding, and found sometimes in hedge-banks and frequently in forest thickets. Its broadly lance-shaped or ovate leaves are finely serrated on their margins, and

the white, five-petalled flowers are produced in little bunches from near the bases of the leaves and upon long stalks.

The beautiful Dropwort or Meadow Sweet (*Spiræa ulmaria*), or, as it is called, the Queen of the Meadows, is widely known by its crowded panicles of sweet-smelling, cream-coloured blossom aptly likened to the foam of the meadow brook. Its leaves are pinnate, the leaflets in pairs with indented margins, smaller pairs upon the leaf-stem alternating with the larger ones. *Spiræa ulmaria* attains a height of several feet, and is so abundant that it may be found in ninety-nine botanical districts.

Its congener, the Common Dropwort (*Spiræa filipendula*), is not so abundant, and only occurs in fifty-nine districts. It is smaller in size than *Spiræa ulmaria*, and seldom grows higher than a foot and a half. Both are perennials, and both were acquisitions to my garden wild; for their fragrance in the early summer was always delicious, and the fresh greenness of the plants themselves always delightful. The odour of the blossoms of the Meadow Sweet is not unlike, except in strength, the smell of Hawthorn, and the form of the inflorescence is also suggestive of that beautiful shrub. I planted my Spiræas on the sides of my hedge-banks opposite to those which formed the boundaries of my green lane.

The Strawberry-leaved Cinquefoil (*Potentilla fragariastrum*) is a pretty little plant which must not be omitted in the enumeration of the flowers of my garden wild. The Strawberry-like, trifoliate leaves, with rounded, indented, and silky-looking leaflets, the creeping, rooting stems, and the pretty, white, five-petalled flowers must be familiar to many persons, especially as the plant is so abundant that it is to be found in not less than eighty-seven botanical districts.

Nor must the Wild Strawberry (*Fragaria vesca*) itself—whose miniature ruby fruit I have so often gathered to eat from the wild banks on which it grew—be overlooked. Its pretty little flowers are also white; the rooting power of its trailing runners serves to promote its vigorous propagation; and it often covers the banks whereon it grows with a profusion of its trifoliate leaves. Then the pretty and edible fruit succeeds the flowers, and adds its charm to this delightful trailer. Both my Strawberry-leaved Cinquefoils and my Wild Strawberry plants I grew lower down upon the same banks as those on which I planted my Spiræas. It will be remembered that as my banks observed a circular course around the circumference of my garden they formed on one side a continuous lane, while the other sides faced the central part of my garden through which ran my stream. It was on these more open sides, facing

the stream and the contiguous greensward and 'clumps,' that I placed both the Spiræas and the little Strawberry-leaved plants last described. By the breaks or openings in the banks forming my continuous green lane, entrance to the latter could be obtained at several points from the central part of my garden, and habitats were thus provided at the ends of each bank, facing the apertures between them, for sun-loving and shade-loving plants. There were in fact, as will easily be seen, gradations in the characters of the habitats from the more sunny sides and ends of the banks to the inner sides, where the high shrubbery crowning them formed, with the walls of rockery which masked the garden walls, the most complete shade. By the arrangement of my garden I had in fact made provision for every kind of aspect for the plants which I grew in it—sunny, shady, or gradations between the two—positions facing the morning sun and the setting sun, and exposed to the north, to the east, to the south, to the west, and to the various points between all these.

The Field Lady's Mantle (*Alchemilla arvensis*), with its downy, fan-shaped, three-lobed leaves alternately placed on the much-branched, hairy stems, is a thing of beauty. It is an annual plant, and its flowers are small, light green, and not very conspicuous, its charm lying mainly in its elegant foliage. Each of the

three lobes forming the leaf is deeply but irregularly indented; and the flowers, like the leaves, are hairy and grow in the axils of the latter. Its habitats are sandy places, including the tops of walls, and it grows only to a height of a few inches, not exceeding six or eight. The little plant is recorded in ninety-four botanical districts.

Alchemilla vulgaris, the Common Lady's Mantle, is a larger plant than the species just described, for it attains a height of more than a foot, not unfrequently being found a foot and a half long, though usually smaller. The plaited leaves which grow from its rootstock are divided into several lobes, varying from seven to nine, the edges of which are prettily serrated. The upper stem-leaves, similarly divided, are much smaller and have no stalks, whilst the root leaves have long stalks. The flowers are borne in loose and irregular cymes or corymbs at the end of the flowering branches, and are yellowish-green in colour, each perianth consisting of eight pieces, four larger alternating with four smaller segments. The Common Lady's Mantle is found in eighty-one botanical districts.

On the borders of my garden marsh I planted some specimens of the Marsh Cinquefoil (*Potentilla comarum*). It grows about a foot high, and has a branched stem and pinnate leaves, each having from five to seven broadly lance-shaped, indented leaflets arranged in two

pairs or three pairs opposite, with a terminal leaflet making the fifth or seventh, the undersides of the leaflets being more or less hairy. The flowers appear in branched panicles at the end of the flowering stems, which are what is called terminal. They are of a reddish-purple colour, corolla and calyx being divided into ten segments, five larger alternating with five smaller ones. The Marsh Cinquefoil is recorded in eighty-eight botanical districts, and may be met with in marshy and boggy situations. A little care is required, owing to the greater softness and want of cohesion of the soil, in removing marsh plants without disturbing their roots. But the process should always be accomplished by the aid of some convenient receptacle in which to place and carry the little mass of marshy soil which lies about the roots and rootlets.

Somewhat similar in general appearance to the Cinquefoils is the Avens or Herb Benet (*Geum urbanum*), a plant which grows a foot and sometimes two feet high, and has indented, semi-pinnate leaves, the leafy lobes near the base being smaller than those above, a large lobe or leaflet terminating the stem, and the entire leafy edges being indented. The flowers are yellow in colour, corolla and calyx having each respectively five and ten segments, the five petals of the corolla being uniform in size, whilst the calyx sepals are

alternately large and small. The Avens is recorded in ninety-four botanical districts, and grows not only on hedge-banks but in woods.

The Water Avens (*Geum rivale*) is somewhat like its congener the Herb Benet, except that the flowers are of a dull purplish-brown hue, and droop instead of growing erect. The Water Avens is recorded as occurring in seventy-eight botanical districts, inhabiting, as its specific name will suggest, wet and marshy places. I planted it on the borders of my garden marsh.

I had often been greatly charmed, when wandering through woodlands in the summer, at the delightful gusts of perfume that reached me from time to time, so strongly suggestive of Hawthorn blossom that, but for the lateness of the season, it would have deceived me. I soon learnt that the fragrance came from the expanded flowers of the Mountain Ash (*Pyrus aucuparia*), which, though a tree, may claim a place by its modest size, even in a small garden. It will grow in any situation, even the most exposed, and in any soil. I obtained several saplings, and planted them in different parts of my open ground. *Pyrus aucuparia* is beautiful in leaf, flower, and fruit. Its leaves are pinnate, the leaflets being arranged in opposite pairs along the leaf mid-stem, with a terminal leaflet. The margins of the leaflets are finely and regularly indented,

the indentations, however, ceasing near their bases. The white, five-petalled flowers are borne in more or less crowded cymes, and the form of inflorescence strongly resembles that of the Hawthorn. The Mountain Ash is recorded in ninety-three botanical districts. Apart from its beauty of leaf and flower, the brilliant hue of the scarlet berries which follow the blossoming adds new loveliness to this attractive and delightful tree.

There is, I think, no plant which makes a richer contrast of two colours than the Purple Loosestrife (*Lythrum salicaria*), whose tall spikes of magnificent purple blossoms rise above the deep green of its own foliage on so many stream-sides. There is, it seems to me, a peculiar softness in the contrast, although it is so striking, of purple and green—the purple, I mean, which is sufficiently red to make a striking contrast. Bright crimson or scarlet is striking when contrasted with green, but each wants the softness which empurpling gives. I have explained that I had bordered my garden stream with misshapen blocks of stone, not arranged in regular masses or continuously, but just as one may often find the sides of moorland streams. Amongst these rocks I planted my Loosestrifes, which, in their flowering season, became a marked and striking feature of my garden. The Purple Loosestrife is recorded in seventy-nine botanical districts. It has

branched, four-angled and sometimes six-angled, stems which rise to a height of from two to five feet according to more or less favourable conditions of growth, and lance-shaped, pointed, bright-green leaves which grow in pairs on the lower parts of its stem, and in threes and occasionally in fours higher up. The flowers form tall terminal spikes composed of successive whorls with alternate leafy spaces between each, and five or six blossoms in each whorl. The corolla consists of six, reddish-purple petals seated upon a twelve-ribbed green calyx. By the whorled arrangement of the blossoms their somewhat star-like forms face all sides of the flowering spike. The leaves of the Purple Loosestrife are always more or less hairy, especially on their undersides, and the stem is oftentimes roughened by the crowded presence of hairs. Moisture seems more essential to the successful growth of this handsome plant than the quality of the soil in which it may be planted: at least, such was my experience after its introduction into my garden wild.

In moist earth by my stream-margin I placed some little plants allied to the Purple Loosestrife. These were Water Purslanes, which are recorded in eighty-three botanical districts. The Water Purslane (*Peplis portula*) has prostrate, creeping stems which root at the leaf-joints, and opposite pairs of inversely egg-shaped or

club-shaped leaves, and small, six-petalled, pinkish-purple flowers produced in the axils of the leaves.

The Greater Willow Herb, or Great Hairy Willow Herb (*Epilobium hirsutum*), may claim almost to rival the Purple Loosestrife, and it is equally abundant. But the looser arrangement of its long-stalked, pink blossoms does not strike the eye so forcibly as the more compact and crowded aggregation of flowers on the spikes of *Lythrum salicaria*. The Greater Willow Herb attains a height of several feet, not unfrequently five. The long, pointed, lance-shaped, finely-serrated, willow-like leaves are produced in pairs on the lower parts of the stems, and in single alternation higher up, and leaf-stems and flower-stems are tinged with a reddish hue which very closely resembles the colouring of willow twigs. The pink petals of the handsome and conspicuous blossoms are four in number, and in form inversely heart-shaped. By my garden stream I placed my Greater Willow Herbs in precisely the same positions as those selected for the Purple Loosestrifes. Besides *Epilobium hirsutum* I grew the four others which I shall proceed to briefly mention.

The Broad Smooth-leaved Willow Herb (*Epilobium montanum*) is a smaller plant than the species last described, for it does not exceed, ordinarily, two feet in height. But it is more widely distributed, being

recorded in a hundred and two botanical districts, and its leaves, though similarly arranged, are broader in proportion to their length than those of the Greater Willow Herb. The colour of its blossoms is a pale pink or pinkish purple, sometimes almost approaching white. Its habitats are drier than those of its water congener, and it is found in shady hedge-banks and sometimes on walls and even on thatched cottage roofs.

By riversides and in marshy places will be found another abundant Willow Herb, that is recorded in ninety-four botanical districts. This is the Narrow-leaved Marsh Willow Herb (*Epilobium palustre*), which, though growing to about the same height as its broad-leaved relative, may be known by its much narrower leaves. Its flowers, of the Willow Herb type, are rose coloured.

The Small-flowered Hairy Willow Herb (*Epilobium parviflorum*) scarcely needs other distinctive description than that given by its common name, if that be taken in conjunction with a comparison of the plant with the other species of its genus. Its flowers are rose-coloured, and the plant, though often only a foot in height, may be sometimes found three feet high, and it should be looked for by riversides and in marshy places, care being taken not to confound it with

Epilobium hirsutum, from which it may be distinguished not only by its smaller size, its less branched habit—it is in fact seldom branched at all—but by the smallness of its flowers.

Epilobium angustifolium, the Rose-bay Willow Herb, is recorded in eighty botanical districts, and is an inhabitant of moist places in woods, meadows, and hedge-banks. It may be known by the large size—the largest of all our British Willow Herbs—of its flowers. The plant, too, is the largest British species, attaining a height oftentimes of six feet, and seldom, when mature being less than three feet high.

The Common Enchanter's Nightshade (*Circœa lutetiana*) I planted in my green-lane hedge-banks. It is recorded in eighty-six botanical districts. Its flowers are white or pinkish white, each consisting of a reflexed calyx of two segments and a corolla of two inversely heart-shaped petals. They are produced on a loose, terminal raceme, and the leaves are borne on the stems in pairs, having distinct footstalks. They are heart-shaped in form and slightly crenated along their edges, stem-leaves and flower-stalks being more or less downy. The Common Enchanter's Nightshade grows from a foot to two feet high, and should be looked for in the damp and shady parts of woods.

In shallow holes of my rockwork and in moist seams

or interstices in the solid stone I planted a lot of specimens of the little Biting Stonecrop, or Wall Pepper (*Sedum acre*), a plant which occurs in at least ninety-six botanical districts. Its round, procumbent, fleshy stems root at various points in the moist stony interstices of rock or wall, and from each rooting point round, smooth, fleshy, and succulent branches arise to a height of two or three inches. These, a short way up, are clothed with the imbricating or overlapping short, round, oval-shaped, fleshy, succulent leaves. At the top of these leaf-stems are produced the branched cymes or panicles of yellow, five-petalled, conspicuous flowers. The Stonecrops can bear full exposure to the sun, and indeed they like sunny positions, and thrive in dry sandy or stony habitats.

Much larger than *Sedum acre* is *Sedum telephium*, the Orpine or Live-long, a plant that grows from one to two feet high, growing on hedge-banks and other shady places. It has a smooth, fleshy stem and short, oblong, indented, fleshy leaves and corymbs of purplish-crimson or rosy flowers. It is found in seventy-two botanical districts.

Along with my Stonecrops I planted some specimens of an allied plant, the Pennywort (*Cotyledon umbilicus*), a curious little species which grows from a few inches to a foot high, and has fleshy leaves like green

pennies, with long, fleshy leaf-stalks attached to the round leaves about their centres, the upper side of the leaf being depressed opposite the point of attachment underneath. The leaves are produced from the lower part of the stem, and the flowers, terminating the long flowering stalk, appear in the form of racemes of bell-shaped, yellowish-green blossoms.

In rockery there are always so many little places where small plants can be put, and as single roots of many rock or wall-loving species occupy little room, there is always space either for growing many kinds or growing numerous individuals of the same kind. Amongst the small rock-plants I introduced into my garden were the two species of Saxifrage I am about to mention. The first of these is the Rue-leaved Saxifrage (*Saxifraga tridactylites*), which, occurring in seventy-four districts, grows from three to five inches in length, has reddish stems and alternately-placed, palmate or three-cleft, fleshy leaves clothed with glandular hairs, and small, white, five-petalled flowers which are produced at the ends of upright, slender stems.

The White Meadow Saxifrage (*Saxifraga granulata*) is a larger plant, growing from six inches to a foot high. It is found in sixty-nine botanical districts, has an erect, round, more or less hairy stem, and pretty, long-stemmed, kidney-shaped, indented leaves, which are

also more or less downy. The blossom consists of a terminal branched corymb of a few large, white flowers, beautifully veined. The White Meadow Saxifrage loves gravelly soil, and may be found in fields and hedge-banks. Upon stems and leaves there is oftentimes a reddish hue.

Amongst the rocks that bordered my garden stream I planted the pretty little Opposite-leaved Golden Saxifrage (*Chrysosplenium oppositifolium*), whose round, wedge-shaped, opposite, golden leaves are placed in pairs along the stem. The plant is recorded in ninety-two botanical districts, and grows to a height of one or two inches, not exceeding four. The flowers are produced on long stems at the ends of the branches, the corolla being four-cleft and the colour yellow.

Another Golden Saxifrage I grew was *Chrysosplenium alternifolium*, or the Alternate-leaved Golden Saxifrage, which occurs in sixty districts. It is distinguished by having crenated somewhat kidney-shaped leaves, placed alternately along the stem instead of in opposite pairs, as in *Chrysosplenium oppositifolium*. Its smooth, fleshy stem is seldom found more than three or four inches high, and its little, four-cleft, yellow flowers are borne at the ends of the stems. Both species may be found in stony places that are damp or wet.

The delightful greenness of the large, three-lobed leaves of the Wild Guelder Rose (*Viburnum opulus*) and the beauty of the large corymbs of white blossom induced me to introduce one or two of these refreshing shrubs into my hedge-banks and amongst my green-sward clumps. The Guelder Rose is recorded as occurring in eighty-six botanical districts, its habitats being woods and forests. The white flowers have, each, five, egg-shaped petals. The outer blossoms of the corymbs are always very much larger than the crowded mass in its centre—a circumstance which gives a curious and noticeable character to the inflorescence of the Wild Guelder Rose. Each of the three, large lobes into which the leaf of this shrub is divided is sharply and somewhat deeply indented.

My space warns me that I must very briefly describe those—not yet referred to—of the wild flowers of my garden that I desire to particularly mention.

The Sweet Woodruff (*Asperula odorata*) grows from a few inches to a foot high, and is recorded in eighty-nine botanical districts. It has an upright, smooth, square stem, whorls of from seven to nine lance-shaped rough leaves, arranged somewhat shuttle-cock fashion at intervals around the stem and its branches, and terminal panicles of small, white, four-petalled, funnel-shaped flowers. It has a sweet, balsamic

smell, something like new-mown hay, and it loves the shady parts of woods.

The large, angularly-heart-shaped leaves, fully grown, of the Coltsfoot (*Tussilago farfara*), which crowd almost every waste place—for the plant is found in at least a hundred and two botanical districts—showing, when the wind blows, their white cottony undersides, few persons ever fail to recognise. But the earlier appearance of the plant, when, before the arrival of the leaves, the yellow flowers, each consisting of crowded rays or florets like the Dandelion blossom, are raised on tall stems covered by imbricated or overlapping scales that point upwards, is less familiar. The young leaves, too, with rounded edges, roundly heart-shaped forms, and smooth, glossy upper sides, seem hardly to bear relation to the huge, angled, wrinkled leaves which they ultimately become. Though it loves a moist and rather heavy soil, the Coltsfoot will grow in any soil. I planted mine by my stream margin, taking them up when small, so as to easily secure all the roots, without disturbance, in clumps of earth.

Here and there on my open greenswards I planted some specimens of the Common Mouse-ear Hawkweed (*Hieracium pilosella*), a flower belonging, like the one last mentioned, to the natural order *Compositæ*. It grows about six inches long, has leaves which rise in

tufts from the root, and are lance-shaped in form, and soft and woolly to the touch, and star-like flowers, pale yellow or lemon-coloured, which rise singly from the root on long stems. Recorded in a hundred and one botanical districts, *Hieracium pilosella* is the most abundant species of its genus.

Who does not know the beautiful Harebell (*Campanula rotundifolia*), whose lovely blue flowers—veritable bells—grow so abundantly on woodland heaths and in forest glades, on sandy peat soil, and sometimes in fields and on walls? It is found in at least a hundred botanical districts. Its roundly heart-shaped leaves must have suggested its common name, though the leaves higher up on the stems are narrow and lance-shaped. Elegance and grace are the especial characteristics of the drooping blue bells of this charming little plant.

I should not have considered my garden a 'wild' had I not grown the beautiful Heather, of delightful association and sunny memories. I shall first briefly notice the most abundant species of the genus *Erica*, namely, the Cross-leaved Heath (*Erica tetralix*), which is recorded in a hundred botanical districts. The branched stems of this species are crowded more or less closely with linear, spreading and somewhat obtuse leaves, which are arranged in whorls of three and four in each whorl. The drooping, rose-coloured blossoms—like rosy

eggs open at one end—are borne in heads or umbels at the upper end of the stems. Sometimes these blossoms are white or almost white instead of being rose-coloured.

The leaves of the Fine-leaved Heath (*Erica cinerea*) are narrower and more pointed than those of *Erica tetralix*. They are similarly arranged in whorls on the stems—the whorls consisting ordinarily of three—and the purple blossoms are also arranged in whorls at intervals upon the stems, but the inflorescence is more abundant upon the upper parts of the stems.

Forming by the branching of its stems a tufted bush of, ordinarily, a foot in height, though sometimes two feet, the Ling (*Calluna vulgaris*), which is recorded in a hundred botanical districts, may be distinguished from the two species just described by the arrangement of its leaves in imbricated rows of four each on opposite sides of the stems. The rose-coloured or purplish rose-coloured flowers of the Ling are produced in one-sided racemes, usually on the upper parts of the stems. I grew all three species in my garden, planting them in the most open parts along with the various Grasses which I have already mentioned and described. It is easy to take up the Heather roots—all three come within the popular designation of 'Heather'—with earth about them sufficient to prevent any disturbance of the roots and fibrous

rootlets; and I always transplanted them with such care that I could remove them from their habitats to my garden when they were in full flower without any injury.

Most of my garden flowers were perennial plants. But I possessed a few annuals which I always left to reproduce themselves, a duty which none of them failed to perform. Amongst these annuals was the Field Gentian (*Gentiana campestris*), a plant which grows from a few inches to a foot high, has three-ribbed, lance-shaped leaves that grow, ordinarily, in opposite pairs, and purplish, salver-shaped, four-cleft flowers. It is found in seventy-nine botanical districts. I planted mine in the drier parts of my open ground.

To the same natural order as the Gentian belongs the Buckbean, or Marsh Trefoil (*Menyanthes trifoliata*); but it loves a marshy position, and so I placed it with my moisture-loving plants. The Buckbean occurs in ninety-four botanical districts. Its stem is ordinarily eight or ten inches high, and the long-stemmed, trifoliate leaves, the leaflets of which are egg-shaped, clasp the stem at their bases. The flowers are borne upon a raceme at the end of a long, round, fleshy stalk, and are of a light pink or rose colour, calyx and corolla being divided into five, oval, pointed segments.

On the borders of my garden marsh I placed my

Forget-me-nots. I need not linger over descriptions of the delightful little plant (*Myosotis palustris*), only needing to remark that though the affectionate designation of 'little' is commonly applied to it, its stems sometimes attain a height of two feet. The curiously curled or scorpioid form of the upper part of its raceme of blue, five-petalled, yellow-eyed flowers suggested the old common name of Scorpion Grass which it used to bear and by which it is still sometimes called. In eighty-one districts *Myosotis palustris* has been recorded. No plants gave me more pleasure in my garden wild.

In precisely the same positions with regard to moisture as I gave to my Forget-me-nots, I planted specimens of the Butterwort (*Pinguicula vulgaris*), giving them, however, a more shady situation. It is found in at least eighty botanical districts. Its leaves are all radical, egg-shaped, obtuse, fleshy and greasy to the touch. The flowers, which rise singly and on long stems from the root, are purple in colour, five-cleft and spurred.

Yet another of my annual plants was the Scarlet Pimpernel (*Anagallis arvensis*), which is recorded in eighty-six botanical districts. It has much-branching stems, which attain sometimes a height of eighteen inches, and numerous very striking and beautiful flowers

of a bright red colour, each having a green calyx of five acute, lance-shaped segments, and a wheel-shaped corolla of five, rounded petals. The Scarlet Pimpernel grows in fields and by roadside hedges. Mine I planted, some in my rockwork, others in my green-lane hedge-banks, and others by my stream margins.

I had almost forgotten to mention my Comfreys. The Comfrey (*Symphytum officinale*) is a big plant, sometimes three feet high, singularly upright in its habit of growth, with branching, hairy, winged stems, rough, hairy, lance-shaped leaves, and urn-shaped, tubular flowers which grow in curved, one-sided racemes and are cream-coloured. It is found in seventy-seven districts, and, though fond of stream sides, it is singularly hardy and will grow in any soil. I placed my Comfreys near the stones which bordered my garden stream.

Of the curious Orchis family I must especially mention two that I grew in my garden. The first of these was the Early Purple Orchis (*Orchis mascula*), which has shining-green, lance-shaped, radical leaves with dark-purple spots upon them, and spikes of lip-shaped, spurred, purple flowers. It grows in fields and woods, and is recorded in eighty-seven botanical districts.

Its congener, the Spotted Palmate Orchis (*Orchis maculata*), is noticeable by the numerous purple spots

which mark its lance-shaped, narrow leaves. The tubers of this species are palmate in form, and the lips of the pale, purplish, purple-streaked or spotted flowers, which grow crowded in the form of a spike, are spreading and three-lobed. The Spotted Palmate Orchis is more widely distributed than the species last mentioned, for it has been recorded in ninety-eight botanical districts. It should be looked for in woods and fields. The leaves of this species become gradually smaller as the stem ascends until they are mere empurpled bracts. I took especial care, as was necessary, in removing my Orchis roots, digging deeply and carefully down and around the plants, so as to include the whole of the bulbs and subjacent and adjacent rootlets without disturbing them. By adopting this plan and taking up little masses of earth including the entire growing plant, I succeeded absolutely, and could remove them without the slightest injury in the height of their flowering season.

Along the edges of my stream I planted the Yellow Iris (*Iris pseudacorus*), a species which grows to a height of from two to four feet, has large, bluish-green, sword-like leaves, and is well known by its large yellow or lemon-coloured flowers, consisting each of six unequal petals. The fact that it is recorded in a hundred and one botanical districts will testify to its abundance.

And last to be mentioned, in these pages, of the flowers and ferns which I grew in my garden wild is the widely-known and beautiful Daffodil (*Narcissus pseudo-narcissus*). Though only recorded in sixty botanical districts, the Daffodil grows oftentimes in great abundance in the localities where it is found, prominently displaying its long, lance-shaped leaves, a foot in length, and its large, bent blossoms, each consisting of a golden-coloured bell-shaped crown surrounded by the six, spreading segments of the perianth. I grew my Daffodils in one little clustered group near my garden marsh in moist ground, from whence came, year after year, a gleam of colour, in the earliest season of flowering which succeeds the sleep of winter.

XIV.

L'ENVOI.

My book will have failed to serve its end if it should not induce its readers to follow my example and begin to grow wild flowers and ferns in their gardens. I ask for at least some consideration of my suggestions. My garden was a large one, and I had the especial advantage, as I have explained, of a stream of water running through it—an advantage which enabled me to grow aquatic plants that I could not otherwise have, so easily, introduced into my 'wild.' Some of my readers will be similarly favoured—those who have grounds through which water actually runs, and others who could, with little difficulty, divert water from adjoining streams across their gardens. But the great majority of those who will read my chapters will probably have no especial facilities of this kind—by which I mean natural facilities for the supply of running water. It will, however, require little ingenuity to extemporise the means of water supply to, at least, some extent.

Much may be done by the agency of raised reservoirs, whether those provided by the companies of persons who provide water, on payment, for individual use, or reservoirs especially constructed for the purposes of a garden. The size and capabilities of reservoirs of this especial kind become, of course, a question of expense; but the expense would probably be less than might be anticipated, and it could be exactly adjusted to the means of the experimenter. My readers will perhaps say:—'Supposing we construct a reservoir, whence shall we obtain our supply of water, and at what cost?' The answer to this question is that the clouds will supply the water, and will supply it free of cost, making no enquiries as to rentals, and entirely ignoring the question of assessments. A simple arrangement will be necessary in order to utilise the largest possible extent of roof-surface by means of pipes communicating from the rain collectors, or shoots, to the reservoir. If my readers would like to ascertain, in elaborate detail, how they can establish independent reservoirs, I beg them to consult a very able and interesting little *brochure*, entitled 'Water for Nothing,' from the pleasant and vivacious pen of Mr. Shirley Hibberd, a gentleman whose name is a household word amongst all lovers of gardening. But, for the purposes of such gardens of wildings as I should like to see possessed by every

householder, the construction of a reservoir might be effected in the manner I shall proceed to describe. On the highest part of the garden a mound should be erected, as high and as wide as means will allow. By hollowing the crest of such a mound and lining the depression with clay or cement, an open receptacle for rainfall would be formed. The incline to the mound should be so graduated as to enable it to be easily ascended. Upon its sides and around the edge of this extemporised reservoir there might be greensward and clumps of shrubbery, or the surface might be covered by large pieces of rock, and Bracken, or other ferns, planted between the stony masses. By concealed pipes communicating with any adjacent buildings, the entire rainfall upon every available roof-surface could be conducted to the bottom of the reservoir, which might itself become a pool for the growth of still-water plants. The contents of this extemporised pool or miniature lake could be conducted out of it into the garden in the form best suggested by the extent of its volume. It might be carried by pipes, or otherwise, slowly, if its volume be not large, down the sides of rockery lying below it in the garden—after the manner of a rill or tiny cascade; or it might be made to flow, in a greater or less quantity, down a channel made by a slight trench, clay-lined or cemented, and lined and

partly filled by little pieces of rock, thus imitating a small woodland or roadside stream. This channel might meander through the garden in such a way as to traverse a considerable portion of it and reach its lowest level at a point which might lie in an excavation at the foot of the rock-covered mound on which the reservoir had been formed. My reason for making this suggestion is that those who might be inclined to provide a simple water-pump, which might be cleverly concealed from the general view of the garden, could pump up into the reservoir the water which had come from it. The trench or excavation I propose for the reception of the water which had flowed through the garden, might easily be made into a second pool by cementing its sides and bottom, and surrounding it with rockery or green, growing things; and the final flow of the extemporised garden stream into this lowest level might be so arranged as to imitate a waterfall. The water, if limited in quantity, need not be always flowing from the higher to the lower pool.

But almost a hundred ways will, I am sure, occur to my readers of altering or adapting my proposals to meet particular circumstances, when once the simple principles which regulate the flow of water are understood. They will, I think, equally see that the scale upon which they are carried out can be easily adjusted

to meet individual means or appliances ; and there is surely no existing garden so small as to prevent the adoption of at least a modification of my plan.

Still, pleasant and interesting as would be the work of carrying out such a plan as that of providing for running water in a garden, it need not be attempted if it should involve too much trouble or expense. A delightful wild garden might be established with no other adjuncts than those of earth and stones. If there be not room for the imitation of a green lane or hedge-banks, rockeries can be established and so arranged as to form an enticing bit of real wilderness.

As to the plants to be grown, little trouble need be taken, if trouble be begrudged, to search far and wide for specimens. The nearest lanes or fields or woods will furnish them in abundance; and the localities which possess, apparently, the poorest floras will be found, by the earnest and enthusiastic searcher for them, to be surprisingly rich in forms of beauty.

The question of watering is one that need give little trouble. Make the garden *natural* by doing as Nature does—namely, filling up vacant spaces of earth with green things—and the leaves and roots will retain moisture for themselves, and make an atmosphere which will be conducive to vegetable growth and vigour. Look at country hedgesides, at fields, woods and glades,

where *man* has not stripped off the *natural* carpeting! Where can one find *vacant spaces* of earth? *Plants are eminently sociable,* and it is only *when their natural requirements* are *disregarded* that they *refuse to grow* in health, vigour and beauty!

Finally, then, dear readers, see how NATURE keeps *her* gardens, and closely follow her teaching in every detail. Half of the delight—the charm—of wild gardening will consist in 'the rural walk'

'O'er hills, through valleys, and by river's brink,'

to search for—and to study the habits and the likings of—the flowers and ferns to be grown.

MY GARDEN KEY.

My Garden 'Key' is in the nature of an Index to the plants mentioned in the volume; but it is more than this; for under the name of each species I shall give a key to the districts of Great Britain in which it is to be found. Amongst the most elaborate and valuable accounts ever published of the distribution of British plants are those written and compiled by Mr. Hewett Cottrell Watson under the titles of 'Topographical Botany' and 'Cybele Britannica.'

From the first of these the information given in this 'Key' has, by the kind permission of Mr. Watson, been obtained. It must be explained that the author of 'Topographical Botany' obtained his facts, as the result of many years' labour, from the reports of a large number of correspondents, by means of his own researches, and from published and reliable works. The task of collecting information of this kind was necessarily a gigantic one, and it was not found possible by Mr. Watson to make his work quite complete by obtaining full data from every one of the botanical districts into which, for the purposes of his arrangement, he had divided Great Britain. Hence he failed to secure facts as to the presence of the commoner plants of this

country in nine out of his hundred and twelve districts. These nine districts are the following :—In Wales the counties of Brecon, Radnor, Montgomery, and Merioneth ; and in Scotland the counties or botanical districts of Wigton, Peebles, Selkirk, Mull, and West Ross. In most, and in very many cases in all, of these nine excepted districts the commoner plants are almost sure to be found. When, therefore, in the preceding pages plants are referred to as occurring in a hundred and three districts, it may fairly be assumed that the same plants are to be found in all the hundred and twelve, or, in short, nearly everywhere. Where the number of districts in which a plant has been reported to occur reaches or approaches a hundred, it may also be supposed that it is likely to be found in all the others. In fact certain lists which have been published by other compilers with the object of supplementing 'Topographical Botany' prove that many of the commoner plants do occur in the excluded districts. Against most of the species whose prevalence is likely to be general Mr. Watson has made some notes to that effect ; and these will be given between quotation marks in the following enumeration. A plan adopted in 'Topographical Botany'—a work which, it should be explained, was only printed for private circulation—is here followed in the case of the most widely distributed plants. Instead of giving a list of all the districts in which plants have been reported to occur, the list of exceptions from reports is given. Against each plant in the 'Key' will be given not the name, but the number, of the district in which the plant is found or from which it is absent ; and the names of the districts can be at once seen by reference to the prefixed table of localities. The numbers and names are those given in 'Topographical Botany.' For

the purposes of this arrangement it will be seen that Great Britain has been divided into eighteen provinces or primary districts; these into thirty-eight sub-provinces; and the sub-provinces, in turn, into a hundred and twelve smaller districts which are either counties or vice-counties. The numbers (in brackets) given in this 'Key,' immediately following the names of the plants, are quoted, with some corrections necessary owing to misprints or for other reasons, from the 'London Catalogue' already referred to, and they indicate the number of districts out of the hundred and twelve in which the plants have been reported to Mr. Watson to occur. The *localities* in the 'Key' will be given after the botanical names; but both popular and botanical names will be placed in alphabetical order, with an indication of the page of the volume where the plants they represent will be found described. The words 'and the nine' will be understood to refer to the nine districts, already named, no reports from which have been published in 'Topographical Botany.'

I. *Divisions of* BRITAIN *into eighteen* PROVINCES.

I.	Peninsula.	X.	Humber.
II.	Channel.	XI.	Tyne.
III.	Thames.	XII.	Lakes.
IV.	Ouse.	XIII.	West Lowlands.
V.	Severn.	XIV.	East Lowlands.
VI.	South Wales.	XV.	East Highlands.
VII.	North Wales.	XVI.	West Highlands.
VIII.	Trent.	XVII.	North Highlands.
IX.	Mersey.	XVIII.	North Isles.

II. *Subdivisions of the Primary Provinces into thirty-eight* SUB-PROVINCES *and one hundred and twelve* COUNTIES *and* VICE-COUNTIES.

I.

I. SOUTH PENINSULA.
1. West Cornwall.
2. East Cornwall.

II. MID PENINSULA.
3. South Devon.
4. North Devon.

III. NORTH PENINSULA.
5. South Somerset.
6. North Somerset.

II.

IV. WEST CHANNEL.
7. North Wilts.
8. South Wilts.
9. Dorset.

V. MID-CHANNEL.
10. Isle of Wight.
11. South Hants.
12. North Hants.

VI. EAST CHANNEL.
13. West Sussex.
14. East Sussex.

III.

VII. SOUTH THAMES.
15. East Kent.
16. West Kent.
17. Surrey.

VIII. NORTH THAMES.
18. South Essex.
19. North Essex.
20. Herts.
21. Middlesex.

IX. WEST THAMES.
22. Berks.
23. Oxford.
24. Bucks.

IV.

X. SOUTH OUSE.
25. East Suffolk.
26. West Suffolk.

XI. NORTH OUSE.
27. East Norfolk.
28. West Norfolk.

XII. WEST OUSE.
29. Cambridge.
30. Bedford.
31. Hunts.
32. Northampton.

V.

XIII. SOUTH SEVERN.
33. East Gloucester.
34. West Gloucester.
35. Monmouth.

XIV. Mid Severn.

36. Hereford.
37. Worcester.
38. Warwick.

XV. North Severn.

39. Stafford.
40. Salop.

VI.

XVI. South-East Wales.

41. Glamorgan.
42. Brecon.
43. Radnor.

XVII. South-West Wales.

44. Caermarthen.
45. Pembroke.
46. Cardigan.

VII.

XVIII. North Wales.

47. Montgomery.
48. Merioneth.
49. Caernarvon.
50. Denbigh.
51. Flint.
52. Anglesea.

VIII.

XIX. East Trent.

53. South Lincoln.
54. North Lincoln.

XX. West Trent.

55. Leicester.
56. Notts.
57. Derby.

IX.

XXI. Mersey.

58. Chester.
59. South Lancaster.
60. West Lancaster.

X.

XXII. East Humber.

61. South-East York.
62. North-East York.

XXIII. West Humber.

63. South-West York.
64. Mid-West York.
65. North-West York.

XI.

XXIV. Tyne.

66. Durham.
67. Northumberland.
68. Cheviotdale.

XII.

XXV. Lakes.

69. Westmoreland.
70. Cumberland.
71. Isle of Man.

XIII.

XXVI. South-West Lowlands.

72. Dumfries.
73. Kirkcudbright.
74. Wigton.

XXVII. North-West Lowlands.

75. Ayr.
76. Renfrew.
77. Lanark.

XIV.

XXVIII. East Lowlands.

78. Peebles.
79. Selkirk.
80. Roxburgh.
81. Berwick.
82. Haddington.
83. Edinburgh.
84. Linlithgow.

XV.

XXIX. South-East Highlands.

85. Fife, Kinross.
86. Stirling.
87. West Perth, Clackmannan.
88. Mid Perth.
89. East Perth.

XXX. Mid East Highlands.

90. Forfar.
91. Kincardine.
92. South Aberdeen.
93. North Aberdeen.

XXXI. North-East Highlands.

94. Banff.
95. Elgin.
96. Easterness.

XVI.

XXXII. Inner West Highlands.

97. Westerness.
98. Main Argyle.
99. Dumbarton.
100. Clyde Isles.
101. Cantire.

XXXIII. Outer West Highlands.

102. South Ebudes.
103. Mid Ebudes.
104. North Ebudes.

XVII.

XXXIV. Lower North Highlands.

105. West Ross.
106. East Ross.

XXXV. Upper North Highlands.

107. East Sutherland.
108. West Sutherland.
109. Caithness.

XVIII.

XXXVI. North West Isles.

110. Hebrides.

XXXVII. Lower North Isles.

111. Orkney.

XXXVIII. Upper North Isles.

112. Shetland.

PAGE

Acer campestre, Field Maple (57). Recorded in districts 3–40, 43, 44, 50, 52–57, 59, 61–66, 83–85 . . . 190

Adder's-tongue 81

Agrostis alba, Marsh Bent Grass (99). All districts except 46, 80, 97, 107, and the usual nine. 'Doubtless to be found in all' 122

Agrostis vulgaris, Fine Bent Grass (102). All districts except 80 and the usual nine 118

Aira cæspitosa, Tufted Hair Grass (99). All districts except 8, 46, 71, 107, and the nine. 'Likely to be found in every county' 116

Aira caryophyllea, Silver Hair Grass (90). All districts except 31, 32, 35, 41, 54, 60, 61, 69, 71, 86, 98, 107, 110, and the nine. 'Doubtless simply overlooked in all or most of these counties' 127

Aira flexuosa, Wavy Mountain Hair Grass (91). All districts except 26, 31, 41, 46, 54, 60, 71, 82, 84, 86, 98, 107, and the nine. 'Likely to occur in all or in nearly all of the counties' 126

Aira præcox, Early Hair Grass (92). All districts except 4, 24, 31, 32, 53, 54, 60, 72, 86, 98, 99, and the nine. 'No doubt simply overlooked in these districts' . . . 127

Ajuga reptans, Bugle (94). All districts except 46, 60, 86, 97, 98, 101, 107, 108, 110, and the nine 183

Alchemilla arvensis, Field Lady's Mantle (94). All districts except 46, 51, 60, 86, 89, 97, 98, 108, 110, and the nine 236

Alchemilla vulgaris, Common Lady's Mantle (81). Recorded in districts 1–3, 5–9, 14, 17, 19–24, 28–30, 32, 33, 35–41, 49, 50, 52, 54–59, 61–70, 72, 73, 75–78, 81–102, 104, 106, 107, 109, 111, and 112 237

Alopecurus geniculatus, Floating Foxtail Grass (98). All districts except 46, 71, 97, 107, 108, and the usual nine. 'Almost certain to occur in all' 114

Alopecurus pratensis, Meadow Foxtail Grass (94). All districts except 46, 60, 69, 71, 97, 102, 107, 108, 110, and the nine. 'Scarce in the northern counties' . . . 125

PAGE

Anagallis arvensis, Scarlet Pimpernel (86). All districts except 46, 60, 86, 88, 89, 93, 102–112, and the nine . . 253

Anemone nemorosa, Wood Anemone (93). All districts except 51, 53, 60, 97, 102, 107, 109–112, and the nine . 141

Anemone, Wood 141

Anthoxanthum odoratum, Sweet-scented Vernal Grass (99). All districts except 41, 46, 72, 107, and the nine. 'Almost certain to occur plentifully in all' 121

Anthyllis vulneraria, Kidney Vetch (92). All districts except 18, 31, 32, 44, 51, 53, 75, 86, 97, 98, 107, and the nine . 229

Arum maculatum, Cuckoo Pint (76). Recorded in districts 1–45, 47–52, 54–70, 72, 75–77, 80, 81, 83, and 100 . 156

Aspen 191

Asperula odorata, Sweet Woodruff (89). All districts except 13, 31, 46, 60, 71, 72, 86, 88, 89, 97, 98, 107, 108, 110, and the nine 248

Asplenium adiantum-nigrum, Black Maidenhair Spleenwort (94). All districts except 31, 53, 60, 61, 72, 86, 93, 97, 106, 107, and eight of the usual nine. 67

Asplenium ceterach, Scaly Spleenwort (62). Recorded in districts 1–15, 17–21, 23, 24, 26, 27, 32–41, 44–50, 52, 56–60, 63–65, 68–70, 72, 73, 75–77, 81, 88, 89, and 98 . 92

Asplenium ruta-muraria, Wall Rue (93). All districts except 31, 46, 53, 71, part of 87 (West Perth), 97, 106, 107, 112, and the nine 67

Asplenium trichomanes, Common Maidenhair Spleenwort (94). All districts except 31, 32, 46, 53, 61, 86, 97, 107, 112, and the nine 69

Astragalus glycyphyllus, Sweet Milk Vetch (58). Recorded in districts 1, 3, 6–10, 13, 16–20, 22–30, 32–34, 36–40, 50, 53, 55, 56, 62–70, 73, 77, 80–85, 89–91, 93–95, and 106 231

Athyrium filix-fœmina, Lady Fern (97). All districts except 28, 31, 32, 53, 97, 106 and the usual nine . . . 65

Avens 238

Avens, Water 239

PAGE
Barberry 192
Barley Grass, Wild 130
Bellis perennis, Daisy (103). All districts except the nine . 145
Bent Grass, Fine 118
Bent Grass, Marsh 122
Berberis vulgaris, Barberry (72). Recorded in districts 1–4, 6–10, 12, 13, 16–30, 32–40, 50, 54–59, 61–70, 72, 73, 75–77, 80, 81, 83–85, 87–92, 95, 100, 101, 109 . . 192
Bindweed, Great 175
Bird's-foot 230
Blackthorn 188
Bladder Fern, Brittle 87
Blechnum spicant, Hard Fern (99). All districts except 31, 60, 86, 98, and the nine. 'Likely to occur in all these counties, unless the first two numbers should be local exceptions' 63
Botrychium lunaria, Moonwort (86). Recorded in districts 1–17, 19, 23–27, 29, 30, 32, 33, 36–41, 45, 47–52, 55–73, 75–77, 80–85, 87–96, 98, 100, 104–106, 109, 111, and 112 79
Brachypodium sylvaticum, Slender False Brome Grass (91). All districts except 46, 60, 71, 80, 86, 89, 97, 99, 107, 108, 110, and 112 117
Bracken 56
Bramble 195
Briar, Sweet 194
Briza media, Common Quaking Grass (86). Recorded in all the English counties except 60 and 71. In Wales and Scotland recorded in districts 41, 44, 45, 49–52, 72, 73, 75, 77, 80–85, 87–96, 106, 109 128
Brome Grass, Slender False 117
Brome Grass, Soft 119
Bromus mollis, Soft Brome Grass (101). All districts except 41, 71, and the usual nine. 'No doubt it occurs in every county' 119
Broom 228

PAGE

Bryonia dioica, Red-berried Bryony (57). Recorded in districts 3–41, 50, 51, 53–59, 61–68, and 75 . . . 180
Bryony, Black 181
Bryony, Red-berried 180
Buckbean 252
Buckler Fern, Broad 71
Buckler Fern, Hay-scented 101
Buckler Fern, Marsh 98
Buckler Fern, Mountain 78
Buckler Fern, Prickly-toothed 84
Bugle 183
Butterwort 253

Calluna vulgaris, Ling (100). All districts except 54, 60, 71, and the nine. Doubtless to be found in them all . . 251
Caltha palustris, Marsh Marigold (99). All districts except 46, 60, 86, 98, and the nine, 'in all of which it is sure to be found if looked for' 137
Campanula rotundifolia, Harebell (100). All districts except 5, 31, 111, and the nine 250
Campion, Bladder 219
Campion, Red 220
Campion, Sea 218
Campion, White 220
Cardamine pratensis, Cuckoo Flower (100). All districts except 46, 97, 107, and the nine; 'but doubtless actually growing in these counties also' 151
Carduus lanceolatus, Spear Plume Thistle (100). All districts except 46, 73, 98, and the nine. 'No doubt it occurs in every county' 211
Catabrosa aquatica, Water Whorl Grass (81). Recorded in all districts except 1, 4, 35, 41, 44, 46, 60, 71, 73, 75, 76, 80, 84, 86, 88, 89, 97, 98, 106–109, and the nine. 'Likely to be found in most of these; perhaps not in all of them' 115
Cat's-tail Grass 125
Celandine, Lesser 135

PAGE

Cerastium arvense, Field Chickweed (57). Recorded in districts 8, 12, 14–33, 36, 38–40, 50, 53–58, 60–68, 71–73, 77, 80–82, 85, 90–96 222

Cerastium glomeratum, Broad-leaved Mouse-ear Chickweed (95). All districts except 32, 46, 51, 60, 86, 97, 98, 107, and the nine. 'Likely to occur in all.' 222

Cerastium triviale, Narrow-leaved Mouse-ear Chickweed (103). All districts except the usual nine 221

Cerasus avium, Wild Cherry (80). All districts except 13, 31, 34, 41, 46, 53, 60, 84, 89, 93, 97–99, 101, 103–108, 110–112, and the nine 233

Cherry, Wild 233

Chickweed, Broad-leaved Mouse-ear 222

Chickweed, Common 208

Chickweed, Field 222

Chickweed, Narrow-leaved Mouse-ear 221

Chrysosplenium alternifolium, Alternate-leaved Golden Saxifrage (60). Recorded in districts 4–9, 12, 15, 17–19, 22, 24, 25, 27, 28, 33, 35–41, 50, 51, 55–70, 72, 73, 75–77, 81–83, 87, 88, 90–96, 99 247

Chrysosplenium oppositifolium, Opposite-leaved Golden Saxifrage (92). All districts except 29, 31, 51, 53, 54, 60, 74, 86, 98, 107, 110, and the nine, likely to be found in all. 247

Cinquefoil, Common Creeping 162

Cinquefoil, Marsh 237

Cinquefoil, Strawberry-leaved 235

Circæa lutetiana, Common Enchanter's Nightshade (85). Recorded in districts 1–41, 45, 49–52, 54–64, 66–73, 75–77, 80–83, 85, 87, 88, 90–93, 96, 99–101, 108, 109 . . 244

Clover, Purple 163

Clover, White 163

Cock's-foot Grass, Rough 120

Coltsfoot 249

Comfrey 254

Convallaria majalis, Lily of the Valley (52). Recorded in

PAGE

districts 6–9, 11, 12, 14–24, 26–30, 32, 33, 35–40, 49–51, 54–58, 61-67, 69, 70, 87–90, 96 184

Convolvulus sepium, Great Bindweed (75). All districts except 46, 80, 84–98, 103–112 175

Corn Cockle 220

Cornus sanguinea, Dogwood (61). Recorded in districts 1–41, 45, 50, 52–67, 69, 70. 193

Corylus avellana, Hazel (97). All districts except 46, 86, 98, 107, 110, 112, and the nine 191

Cotyledon umbilicus, Pennywort (49). Recorded in districts 1–11, 13, 15, 17, 22, 23, 32, 34–41, 44–50, 52, 55, 57–59, 63, 65, 69–71, 73, 75, 76, 98, 100, 101, 103 . . . 245

Couch Grass, Creeping 124

Cowslip 148

Cranesbill, Blue Meadow 225

Cratægus oxyacantha, Hawthorn (100). All districts except 46, 107, 111, and the nine 187

Crowfoot, Bulbous 134

Crowfoot, Celery-leaved 141

Crowfoot, Corn 144

Crowfoot, Creeping Meadow 134

Crowfoot, Ivy-leaved 139

Crowfoot, Upright Meadow 133

Crowfoot, Water 139

Cuckoo Flower 151

Cuckoo Pint 156

Cynosurus cristatus, Crested Dogstail Grass (102). All districts except 44 and the usual nine 118

Cystopteris fragilis, Brittle Bladder Fern (66). Recorded in districts 1, 3–5, 7–9, 13, 17, 33, 34, 36–41, 46–52, 55–58, 62–70, 73, 75–77, 80–96, 98, 100, 104, 106, and 108–111 87

Cytisus scoparius, Broom (99). All districts except 46, 51, 110, 112, and the nine 228

Dactylis glomerata, Rough Cock's-foot Grass (101). All districts except 46, 107, and the usual nine . . . 120

PAGE
Daffodil 255
Daisy 145
Dandelion 210
Dead Nettle, Purple 176
Dead Nettle, White 177
Digitalis purpurea, Foxglove (95). All districts except 29, 31–33, 53, 60, 107, 112, and the nine 173
Dog Rose 187
Dogstail Grass, Crested 118
Dogwood 193
Dropwort, Common 234
Drosera rotundifolia, Round-leaved Sundew (93). All districts except 7, 33, 34, 46, 49, 51, 60, 84, 86, 107, and the nine 218

Enchanter's Nightshade, Common 244
Epilobium angustifolium, Rose-bay Willow Herb (80). Recorded in districts 3–24, 27, 28, 30, 33–41, 48–50, 52, 55, 57–59, 62–73, 75, 77, 80, 81, 83–97, 101, 102, 104, 108, 109, 111, and 112 244
Epilobium hirsutum, Greater Willow Herb (79). All districts except 46, 49, 53, 71, 86, 88, 92, 93, 94, 95, 97–108, 110, 112, and the nine 242
Epilobium montanum, Broad Smooth-leaved Willow Herb (102). All districts except 46 and the nine, 'in all of which, doubtless, it may be found' 242
Epilobium palustre, Narrow-leaved Marsh Willow Herb (94). All districts except 31, 32, 34, 41, 46, 54, 72, 86, 98, and the nine 243
Epilobium parviflorum, Small-flowered Hairy Willow Herb (88). All districts except 49, 61, 72, 73, 84, 86, 88, 89, 97, 98, 106–109, 111, and the nine 243
Erica cinerea, Fine-leaved Heath (96). All districts except 30–33, 54, 60, 61, and the nine 251
Erica tetralix, Cross-leaved Heath (100). All districts except 32, 33, 46, 54, 60, and seven of the usual nine . . . 250

PAGE

Euonymus europæus, Spindle-tree (66). Recorded in districts 1–34, 36–41, 44–50, 52, 53, 55–58, 62–70, 73, 80, 81, 83 227

Fescue Grass, Meadow 129
Fescue Grass, Sheep's 124
Festuca ovina, Sheep's Fescue Grass (97). All districts except 31, 32, 46, 60, 71, 107, and the nine. 'Presumably occurring plentifully in every county' 124
Festuca pratensis, Meadow Fescue Grass (83). All districts except 32, 45, 46, 51, 60, 71, 80, 84, 86, 93, 95–98, 102, 104, 107, 108, 110, 112, and the nine 129
Forget-me-not 252
Foxglove 173
Foxtail Grass, Floating 114
Foxtail Grass, Meadow 125
Fragaria vesca, Wild Strawberry (95). All districts except 41, 51, 53, 60, 86, 98, 107, 110, and the nine . . . 235

Genista anglica, Petty Whin (80). All districts except 6, 26, 31, 33, 51, 54, 60, 71, 75, 76, 84, 98–105, 109–112, and the nine. 227
Gentiana campestris, Field Gentian (79). Recorded in districts 1–3, 6–10, 20, 22, 23, 26–28, 30, 32, 39–41, 44, 45, 48–52, 54–59, 61–73, 76, 77, 80–83, 85, 87–104, 106–112 252
Gentian, Field 252
Geranium pratense, Blue Meadow Cranesbill (74). Recorded in districts 2, 3, 6–9, 12, 14, 17–25, 28–42, 46, 50–52, 55–59, 61–70, 72, 73, 75–77, 80–83, 85, 87–94, 98–102 . 225
Geranium robertianum, Herb Robert (99). All districts except 97, 98, 110, 112, and the nine 174
Geum rivale, Water Avens (78). Recorded in districts 3, 4, 6–9, 11–13, 19, 20, 22, 23, 26–30, 36–42, 45, 49–52, 54–70, 72, 73, 75–77, 80–100, 102, 104, 106, 109, and 111 239
Geum urbanum, Avens (94). All districts except 71, 97, 102, 104, 107, 108, 110–112, and the nine 238

PAGE
Globe Flower 214
Gorse 203
Ground Ivy 161
Groundsel 210
Guelder Rose 248

Hair Grass, Early 127
Hair Grass, Silver 127
Hair Grass, Tufted 116
Hair Grass, Wavy Mountain 126
Harebell 250
Hard Fern 63
Hartstongue 73
Hawkweed, Common Mouse-ear 249
Hawthorn 187
Hazel 191
Heath, Cross-leaved 250
Heath, Fine-leaved 251
Heath Grass, Decumbent 127
Hedera helix, Ivy (97). All districts except 86, 89, 97, 98, 107, 110, and the nine. 'Likely to occur in all' . . 198
Helianthemum vulgare, Common Rock Rose (80). Recorded in districts 3, 6–20, 22–41, 44–47, 49–57, 59, 61–70, 73, 75, 77, 80–83, 85–92, 94–96, 100, 106 217
Herb Robert 174
Hieracium pilosella, Common Mouse-ear Hawkweed (101). All districts except 98, 112, and the nine . . . 249
Holcus lanatus, Meadow Soft Grass (102). All districts except 71 and the usual nine. 'Doubtless occurs in all' . 119
Honeysuckle 196
Hordeum murinum, Wild Barley Grass (74). All districts in South Britain except 42, 43, 47, and 48. Recorded for Mid and North Britain in districts 53–59, 62–68, 70, 80–85, 90, 91, 95, and 109 130
Hyacinthus non-scriptus, Wild Hyacinth (90). All districts except 46, 53, 86, 88, 89, 97, 98, 107–112, and the nine . 171

PAGE
Hyacinth, Wild 171
Hypericum androsæmum, Tutsan (71). Recorded in districts 1–25, 27, 28, 32–50, 52, 55, 56, 58–66, 69–71, 74–76, 98–102, 104, 106 225
Hypericum hirsutum, Hairy St. John's Wort (76). Recorded in districts 3, 5–34, 36–41, 45, 50, 54–58, 60–70, 72, 73, 75–77, 80–83, 85, 87–95, 100, and 106 224
Hypericum humifusum, Trailing St. John's Wort (85). Recorded in districts 1–34, 36–41, 44, 45, 48–50, 52–59, 61–70, 73–77, 81, 83, 85, 87–95, 97, 100–102, and 109 . 224
Hypericum perforatum, Perforated St. John's Wort (83). All districts except 32, 46, 49, 53, 71, 86, 87, 95, 97–99, 101–105, 107, 108, 110, 112, and the nine 224
Hypericum pulchrum, Small Upright St. John's Wort (101). All districts except 51, 86, and the nine . . . 223
Hypericum tetrapterum, Square-stalked St. John's Wort (88). All districts except 35, 44, 46, 72, 84, 86, 89, 97, 98, 107–112, and the nine 223

Iris pseudacorus, Yellow Iris (101). All districts except 73, 89, and the usual nine 255
Iris, Yellow 255
Ivy 198

Kidney Vetch 229

Lady Fern 65
Lady's Mantle, Common 237
Lady's Mantle, Field 236
Lamium album, White Dead Nettle (87). All districts except 46, 52, 60, 69, 71, 88, 91–94, 97–102, and the nine . 177
Lamium purpureum, Purple Dead Nettle (99). All districts except 35, 88, 97, 107, and the nine. 'Doubtless it occurs in every county' 176
Lastrea dilatata, Broad Buckler Fern (91). All districts

PAGE

except 23, 28, 30, 31, 54, 60, 71-73, 106-108, and the nine 71

Lastrea filix-mas, Male Fern (102). All districts except 97 and the nine 59

Lastrea oreopteris, Mountain Buckler-Fern (87). All districts except 8, 24, 26, 28-31, 33, 35, 54, 73, 82, 84, 93, 94, 97, 106, 111, with seven out of the usual nine . . . 78

Lastrea recurva, Hay-scented Buckler Fern (26). Recorded in districts 1-5, 9, 11, 14, 16, 36, 40, 41, 45, 49, 62, 68-70, 80, 81, 99, 100, 103, 104, 110, 111 101

Lastrea spinulosa, Prickly-toothed Buckler Fern (71). Recorded in districts 1-6, 9-34, 36-41, 49, 51, 52, 55-59 61-71, 76, 83, 85, 86, 88, 90-92, 95, 97-99, 106, and 110 84

Lastrea thelypteris, Marsh Buckler Fern (40). Recorded in districts 3, 6, 9-11, 13-19, 22, 25-31, 36, 38-41, 45, 49, 51, 52, 55, 56, 58, 61-64, 68-70, and 90 98

Lathyrus pratensis, Meadow Vetchling (101). All districts except 96, 107, and the nine 233

Leontodon taraxacum, Dandelion (101). All districts except 41, 74, and the nine 210

Lily of the Valley 184

Lily, White Water 215

Lily, Yellow Water 215

Ling 251

Lolium perenne, Perennial Rye Grass (103). All districts except the usual nine 118

Lolium temulentum, Bearded Rye Grass (65). This species is stated by Mr. Watson to be 'a colonist,' and he says: 'It seems needless to enumerate counties and authorities in detail for a plant so uncertain of being re-found in the same places (fields or even farms) from year to year' . 130

Lonicera periclymenum, Honeysuckle (99). All districts except 41, 86, 98, 107, and the nine 196

Loosestrife, Purple 240

Lotus corniculatus, Common Birdsfoot Trefoil (103). All dis-

PAGE

tricts except the usual nine, in all of which it probably occurs 230

Lotus major, Greater Birdsfoot Trefoil (87). All districts except 30, 46, 49, 51, 86, 95–97, 103–112, and the nine 231

Lychnis diurna, Red Campion (98). All districts except 86, 97, 98, 107, 109, and the nine 220

Lychnis flos-cuculi, Ragged Robin (99). All districts except 46, 49, 51, 97, and the nine 219

Lychnis githago, Corn Cockle (90). All districts except 45, 46, 49, 51, 60, 69, 86, 88, 97, 98, 104, 107, 110, and the nine 220

Lychnis vespertina, White Campion (77). Recorded in districts 1–34, 36, 38–40, 44, 45, 51–59, 61–70, 72, 73, 75–77, 81–83, 85–87, 89–94, and 106 220

Lythrum salicaria, Purple Loosestrife (79). Recorded in districts 1–41, 44, 45, 50, 52–77, 81, 82, 85, 87, 98–102 . . 240

Maidenhair Spleenwort, Black 67

Maidenhair Spleenwort, Common 69

Male Fern 59

Mallow 175

Malva sylvestris, Mallow (86). All districts except 46, 49, 73, 86, 88, 93, 94, 97, 98, 101, 104, 107–112, and the nine 175

Maple, Field 190

Marsh Marigold 137

Mat Grass 125

Meadow Grass, Annual 122

Meadow Grass, Reed 113

Meadow Grass, Roughish 124

Meadow Grass, Smooth-stalked 123

Meadow Rue, Common 214

Meadow Soft Grass 119

Meadow Sweet 234

Melica uniflora, Wood Melic Grass (78). Recorded in dis-

PAGE

tricts 1–41, 44, 49–52, 55–59, 61–70, 72, 73, 75–77, 80, 81, 83, 84, 87, 88, 90–92, 95, 98, and 100 129
Melic Grass, Purple 116
Melic Grass, Wood 129
Menyanthes trifoliata, Buckbean (94). All districts except 5, 31, 34, 46, 53, 86, 97, 99, 107, and the nine . . 252
Milium effusum, Spreading Millet Grass (73). Recorded in districts 1–34, 36–40, 45, 50–52, 55–59, 62–68, 70, 72, 73, 76, 77, 81, 83–85, 90–93, 95, 96, 98, 101 and 102 . 117
Millet Grass, Spreading 117
Molinia cærulea, Purple Melic Grass (95). All districts except 16, 32, 33, 60, 72, 86, 99, and 107. 'Seldom, if ever, really absent from a whole county' 116
Moonwort 79
Mountain Ash 239
Myosotis palustris, Forget-me-not (81). Recorded in districts 1-41, 44, 45, 49, 51–73, 75–77, 80–85, 87, 89, 90, 92, 100 252

Narcissus pseudo-narcissus, Daffodil (60). Recorded in districts 1–30, 32–40, 45, 49–52, 54–59, 61–70 . . . 255
Nardus stricta, Mat Grass (94). All districts except 6, 31–33, 46, 53, 54, 60, 71, and the nine. 'Possibly 31 and 32 may be real exceptions to a comital generality'. . 125
Nasturtium officinale, Watercress (94). All districts except 46, 49, 60, 86, 97, 98, 107, 109, 110, and the nine, 'in all of which it may be held very likely to occur' . . . 216
Nepeta glechoma, Ground Ivy (91). All districts except 46, 86, 87, 89, 99, 104, 107, 108–112 161
Nightshade, Woody 178
Nuphar lutea, Yellow Water Lily (69). Recorded in districts 1, 3, 6–9, 11–34, 36–42, 44–46, 50, 52–59, 61–70, 72, 73, 75–77, 80–83, 85, 90–93, 99, 100, 102 215
Nymphæa alba, White Water Lily (69). Recorded in districts 1–3, 6–9, 11, 13–17, 20–31, 37–44, 48, 52, 56–64, 67, 69, 70, 72, 73, 75–77, 83, 85, 87, 90–93, 95, 96, 99, 100, 102, 104, 106, 108, 110, 112 215

PAGE

Ononis arvensis, Rest Harrow (91). All districts except 31, 46, 49, 51, 53, 86, 97, 101, 104, 107, 109, 112, and the nine 228

Ophioglossum vulgatum, Adders-tongue (79). Recorded in districts 1, 3–15, 17–30, 32–41, 45, 49–52, 54–70, 73, 75–77, 81–85, 87, 89–91, 93, 95, 98, 100, 111, and 112 . . 81

Orchis maculata, Spotted Palmate Orchis (98). All districts except 41, 46, 53, 71, 80, and the nine 254

Orchis mascula, Early Purple Orchis (87). All districts except 41, 46, 53, 60, 71, 80, 89, 96, 97, 101, 102, 104, 107, 108, 110, 111, and the nine 254

Orchis, Early Purple 254

Orchis, Spotted Palmate 254

Ornithopus perpusillus, Bird's-foot (75). Recorded in districts 1–41, 45, 46, 49, 50, 52, 53, 55–59, 61–66, 69–75, 77, 83, 85–88, 90, 94, 95, 99 230

Orpine 245

Osmunda regalis, Royal Fern (77). Recorded in districts 1–6, 8–14, 16–19, 21–30, 37–41, 44, 45, 48–52, 55, 56, 58–73, 75, 76, 81, 82, 84, 86–88, 91, 98–100, 102–104, 108–110, and 112 81

Oxalis acetosella, Woodsorrel (98). All districts except 31, 46, 51, 53, 60, and the nine 226

Pale Hairy Buttercup 144

Pansy 154

Papaver rhœas, Red Poppy (89). All districts except 46, 49, 60, 70, 71–73, 86, 88, 89, 92–95, and the nine . . 216

Pennywort 245

Peplis portula, Water Purslane (83). All districts except 6, 32, 33, 35, 49, 51, 54, 60, 68, 71, 73, 80, 82, 84, 86, 89, 97, 98, 104, 107, and the nine 241

Petty Whin 227

Phleum pratense, Cat's-tail Grass (95). All districts except 46, 71, 97, 98, 103, 105–107, and the nine . . . 125

PAGE

Phragmites communis, Reed (93). All districts except 46, 71, 88, 89, 97, 98, 100, 106–108, and the usual nine . 115
Pimpernel, Scarlet 253
Pinguicula vulgaris, Butterwort (80). Recorded in districts 3, 4, 9, 12, 20, 22–24, 26–29, 31–33, 35–40, 44, 48–52, 54–59, 61–73, 75–77, 80–102, 104, and 106–112 . . 253
Poa annua, Annual Meadow Grass (101). All districts except 71, 107, and the usual nine. 'Doubtless common in every county' 122
Poa aquatica, Reed Meadow Grass (70). Recorded in districts 1, 3, 5–41, 44, 45, 49, 51, 53–60, 62–68, 72, 75–77, 83–85, 87, 88, 90, 92, 95 113
Poa pratensis, Smooth-stalked Meadow-Grass (98). All districts except 35, 46, 71, 97, 107, and the usual nine. 'Doubtless to be found in every county' 123
Poa trivialis, Roughish Meadow Grass (98). All districts except 46, 71, 97, 107, 108, and the usual nine. 'Doubtless to be found in every county' 124
Polypodium calcareum, Limestone Polypody (19). Recorded in districts 6, 7, 23, 24, 33, 34, 36, 39–42, 49, 50, 57, 59, 63, 64, 66, and 69 102
Polypodium dryopteris, Three-branched Polypody (62). Recorded in districts 2–4, 34–41, 43, 45–52, 57–60, 62–70, 72, 73, 75–77, 80, 81, 83–98, 100, 104, 106, 108, 109, and 112 90
Polypodium phegopteris, Mountain Polypody (69). Recorded in districts 1–4, 9, 14, 33, 34, 36, 39–44, 46–50, 57–73, 75–77, 80, 81, 83–92, 94–102, 104, 106–109, 111, and 112 85
Polypodium vulgare, Common Polypody (102). All districts except 53 and the nine 60
Polypody, Common 60
Polypody, Limestone 102
Polypody, Mountain 85
Polypody, Three-branched 90
Polystichum aculeatum, Hard Prickly Shield Fern (88). Re-

PAGE

corded to occur in districts 1–30, 32–41, 44, 45, 49–52, 54–70, 72, 73, 75–77, 80–83, part of 85 (Fife), part of 87 (West Perth), 88–93, 95, 96, 98, 100–102, 104, and 106 77

Polystichum angulare, Soft Prickly Shield Fern (56). Recorded in districts 1–15, 17–22, 24–27, 31, 33, 34, 36–41, 45, 46, 49–51, 55, 57–59, 62–67, 69–71, 75, 80, 81, and 100. 96

Poppy, Red 216

Populus tremula, Aspen (78). All districts except 1–5, 11, 15, 32, 34, 35, 46, 53, 54, 60, 72, 73, 76, 82, 84, 86, 91, 98, 102, 109, 112, and the nine 191

Potentilla anserina, Silver Weed (101). All districts except 46, 97, and the nine 181

Potentilla comarum, Marsh Cinquefoil (88). Recorded in districts 1–3, 6, 8–11, 13, 17, 19, 20, 22, 24–31, 36–41, 43–46, 48–50, 52, 54, 55–59, 61–85, 87–96, 98–102, 104, 106, 108–112 237

Potentilla fragariastrum, Strawberry-leaved Cinquefoil (87). All districts except 35, 46, 51, 53, 60, 80, 97, 101–105, 109–112, and the nine 235

Potentilla reptans, Common Creeping Cinquefoil (78). All districts except 46, 72, 76, 84, 86–88, 93, 95–100, 102–112, and the nine. 'This common plant in England becomes infrequent in Scotland, and appears to be quite absent to the north-west of the Caledonian Canal'. . 162

Potentilla tormentilla, Tormentil (99). All districts except 46, 51, 60, 73, and the nine. 'Doubtless actually to be found in every one of the 112 counties' 162

Primrose 146

Primula veris, Cowslip (80). Recorded in districts 1–3, 5–41, 44, 45, 49–59, 61–71, 73, 75, 80–85, 88, 90–94, 108 and 109 148

Primula vulgaris, Primrose (97). All districts except 41, 46, 53, 60, 86, 107, and the nine. 'Doubtless to be found in every county' 146

Prunus spinosa, Blackthorn (93). All districts except 75, 89, 97, 98, 104, 107, 109–112, and the nine 188

PAGE

Pteris aquilina, Bracken (101). All districts except 35, 60, and the nine 56

Pyrus aucuparia, Mountain Ash (93). All districts except 15, 31, 32, 51, 54, 60, 84, 86, 98, 109, and the nine . . . 239

Quaking Grass, Common 128

Ragged Robin 219

Ranunculus acris, Upright Meadow Crowfoot (103). All districts except the nine 133

Ranunculus aquatilis, Water Crowfoot (91). All districts except 60, 86, 88, 89, 97, 98, 100, 101, 103, 107, 108, 112, and the nine 139

Ranunculus arvensis, Corn Crowfoot (65). Recorded in districts 1–3, 5–34, 36–41, 44, 47, 50, 53–59, 61–68, 70, 75, 77, 81–83, 85, 111 144

Ranunculus bulbosus, Bulbous Crowfoot (89). All districts except 53, 60, 69, 84, 86, 97, 98, 101, 104, 106–108, 110, 112, and the nine 134

Ranunculus ficaria, Lesser Celandine (89). All districts except 46, 51, 53, 60, 69, 86, 88, 89, 97, 98, 101, 102, 104, 107, 108, and 110, 'in all of which it most likely does occur' 135

Ranunculus flammula, Lesser Spearwort (103). All districts except the nine 138

Ranunculus hederaceus, Ivy-leaved Crowfoot (91). All districts except 26, 31, 51, 53, 86, 88, 89, 97, 104, 108, 111, 112, and the nine 139

Ranunculus hirsutus, Pale Hairy Buttercup (66). Recorded in districts 1–3, 5–11, 13–23, 25–32, 34–37, 39–41, 44–50, 54–59, 62, 64, 66–70, 77, 83–90, 98. 'Scarcely more than a casual plant north of Yorkshire' 144

Ranunculus lingua, Greater Spearwort (72). Recorded in districts 1, 3–7, 9–16, 19–32, 36–43, 45, 48, 51, 52, 54–59, 61–70, 72, 73, 75–77, 80, 81, 83–85, 87, 88, 90, 92, 93, 95 143

PAGE

Ranunculus repens, Creeping Meadow Crowfoot (103). All districts except the nine 134
Ranunculus sceleratus, Celery-leaved Crowfoot (88). All districts except 46, 49, 60, 71, 73, 86, 88, 89, 97, 98, 104, 107, 108, 111, 112, and the nine. 'Likely to occur in all of these except the two last' 141
Reed, Common 115
Rest Harrow 228
Rock Rose, Common 217
Rosa canina, Dog Rose (98). All districts except 97, 102, 104, 109, 110, and the nine 187
Rosa rubiginosa, Sweet Briar (50). Recorded in districts 1–4, 6, 9–15, 17–30, 32–40, 50, 52, 55–58, 62–70 . . . 194
Royal Fern 82
Rubus fruticosus, Bramble. The miscellaneous records of the distribution of this species are too unreliable, Mr. Watson states, to be mentioned 195
Rye Grass, Bearded 130
Rye Grass, Perennial 118

St. John's Wort, Hairy 224
St. John's Wort, Perforated 224
St. John's Wort, Small Upright 223
St. John's Wort, Square-stalked 223
St. John's Wort, Trailing 224
Saxifraga granulata, White Meadow Saxifrage (69). Recorded in districts 7–9, 11, 12, 15, 17–30, 32, 33, 36–40, 50, 52–59, 61–73, 75–78, 81–95, and 111 246
Saxifraga tridactylites, Rue-leaved Saxifrage (74). Recorded in districts 1–41, 44, 45, 48–50, 52, 53, 55–59, 61–70, 82–85, 90, 92, 93, 96, 106, 107, 109 246
Saxifrage, Alternate-leaved Golden 247
Saxifrage, Opposite-leaved Golden 247
Saxifrage, Rue-leaved 246
Saxifrage, White Meadow 246
Scolopendrium vulgare, Hartstongue (89). All the English

PAGE

districts except 42, 43, 46–48, and 53. In Scotland it has been reported from 72, 73, 75–77, 80, 81, 83, part of 85 (Fife), part of 87 (West Perth), 98, 100–102, 104, 109, 111, and 112 73

Sedum acre, Biting Stonecrop (96). All districts except 14, 31, 46, 88, 97, 104, 107, and the nine. Likely to be found in all of them 245

Sedum telephium, Orpine (72). Recorded in districts 1–4, 6–30, 32, 34–41, 44, 45, 47–50, 52, 57–59, 61–70, 72, 73, 75–77, 80–83, 85, 87–90 245

Senecio vulgaris, Groundsel (102). All districts except 97 and the nine 210

Shield Fern, Hard Prickly 77

Shield Fern, Soft Prickly 96

Silene inflata, Bladder Campion (90). All districts except 46, 49, 86, 88, 97–99, 101, 104, 107, 108, 110, 112, and the nine 219

Silene maritima, Sea Campion (65). Recorded in districts 1–6, 9–11, 13, 15, 18, 19, 25, 27, 28, 35, 41, 42, 45, 46, 49, 50, 52, 58, 60, 62, 64–72, 75–77, 81–85, 90–104, 106, 108–112 218

Silver Weed 181

Solanum dulcamara, Woody Nightshade (84). All districts except 46, 84, 86, 88, 91–94, 97–99, 101, 104, 107–112, and the nine 178

Spearwort, Greater 143

Spearwort, Lesser 138

Speedwell, Common 160

Speedwell, Field 159

Speedwell, Germander 158

Speedwell, Thyme-leaved 158

Spindle Tree 227

Spiræa filipendula, Common Dropwort (59). Recorded in districts 1–3, 6–26, 28–31, 33, 34, 36–40, 49, 52–57, 60–70, 77, 81, 83, 85, 90, 91, 106 234

Spiræa ulmaria, Meadow Sweet (99). All districts except 46,

PAGE

86, 98, 107, and the nine; 'doubtless it does occur in all of them' 234
Spleenwort, Scaly 92
Stellaria holostea, Greater Stitchwort (93). All districts except 51, 60, 86, 89, 97, 98, 102, 104, 107, 110, and the nine. 'Likely to occur in all these' 177
Stellaria media, Common Chickweed (102). All districts except 46 and the nine, 'in all of which no doubt it occurs' . 208
Stitchwort, Greater 177
Stonecrop, Biting 245
Strawberry, Wild 235
Sundew, Round-leaved 218
Symphytum officinale, Comfrey (77). Recorded in districts 1–41, 44, 45, 49–51, 54–59, 61–69, 71–77, 81, 83–85, 87, 90–92, 100 254

Tamus communis, Black Bryony (66). Recorded in districts 1–42, 44–46, 49–67, 69–70. 'Apparently quite absent from Scotland, although so nearly general to the counties of England' 181
Thalictrum flavum, Common Meadow Rue (61). Recorded in districts 1, 3, 6–31, 33–41, 44, 50, 52, 54–59, 61–67, 69, 77, 81, 83, 85, 98, 100, and 109 214
Thistle, Spear-plume 211
Thyme, Wild 182
Thymus serpyllum, Wild Thyme (101). All districts except 31, 60, and the nine 182
Tormentil 162
Trefoil, Common Bird's-foot 230
Trefoil, Great Bird's-foot 231
Trifolium pratense, Purple Clover (103). All districts except the nine; doubtless to be found in all 163
Trifolium repens, White Clover (103). All districts except the nine. Doubtless it occurs in all 163
Triodia decumbens, Decumbent Heath Grass (91). All districts except 32, 41, 46, 53, 60, 71, 72, 80, 86, 97, 101,

PAGE

107, and the nine, 'most of these being counties in which lists of the commoner plants are least complete'. . . 127

Triticum repens, Creeping Couch Grass (98). All districts except 46, 71, 97, 107, 108, and the nine. 'Doubtless in all' 124

Trollius europæus, Globe Flower (56). Recorded in districts 35–37, 39–43, 46–50, 57–59, 62–70, 72, 73, 75–77, 80, 81, 83–101, 104, 106, 108, 109, 112 214

Tussilago farfara, Coltsfoot (102). All districts except 46 and the nine 249

Tutsan 225

Ulex europæus, Gorse (103). All districts except 46 and eight of the nine 203

Vernal Grass, Sweet-scented 121

Veronica agrestis, Field Speedwell (96). All districts except 41, 46, 84, 97, 104, 107, 108, and the nine. 'Likely to be found in every county' 159

Veronica chamædrys, Germander Speedwell (101). All districts except 46, 110, and the nine. 'Probably in every county, although it may be that 110 (Hebrides) is a real exception to comital generality' 158

Veronica officinalis, Common Speedwell (99). All districts except 35, 46, 60, 107, and the nine. 'Doubtless it grows in every county' 160

Veronica serpyllifolia, Thyme-leaved Speedwell (102). All districts except 107 and the nine. 'Doubtless to be found in every county' 158

Vetchling, Meadow 233

Vetch, Sweet Milk 231

Vetch, Tufted 232

Vetch, Wood 232

PAGE

Viburnum opulus, Guelder Rose (86). Recorded in districts 2–41, 44, 45, 49–70, 72, 73, 75–77, 80–83, 85, 87, 88, 90–92, 94–96, 99, 102, 104, 106 248

Vicia cracca, Tufted Vetch (102). All districts except 46 and the nine 232

Vicia sylvatica, Wood Vetch (67). Recorded in districts 3–10, 15, 20, 22–24, 29, 30, 32, 33, 35–41, 49–52, 54–58, 61–70, 73–75, 77, 81–83, 85, 87–96, 99–101, 105, 106, 109 232

Viola canina, Dog Violet (67). Recorded in districts 1–22, 24–29, 31, 36–41, 44–46, 52, 53, 55, 58, 59, 62–67, 69–71, 76–78, 82–87, 90–92, 94, 100, 109 155

Viola hirta, Hairy Violet (68). Recorded in districts 1–13, 15–24, 26–34, 36–41, 44, 47, 49, 50, 52–57, 59, 61–69, 72, 80–83, 85, 90, 91 155

Viola odorata, Sweet Violet (72). Recorded in districts 1–41, 44, 45, 50, 53–59, 61–71, 75, 77, 81–83, 85–87, 90, and 111 171

Viola palustris, Marsh Violet (85). All districts except 5, 12, 19, 20, 24, 26, 29, 31–34, 46, 51, 54, 60, 80, 86, 99, and the nine, 'in most of which doubtless it is to be found if sought', ... 156

Viola tricolor, Pansy (101). All districts except 97, 107, and the nine 154

Violet, Dog 155

Violet, Hairy 155

Violet, Marsh 156

Violet, Sweet 171

Wall Rue 67

Watercress 216

Water Purslane 241

Whorl Grass, Water 115

Willow Herb, Broad Smooth-leaved 242

Willow Herb, Greater 242

PAGE
Willow Herb, Narrow-leaved Marsh 243
Willow Herb, Rosebay 244
Willow Herb, Small-flowered Hairy 243
Woodruff, Sweet 248
Woodsorrel 226

THE END.

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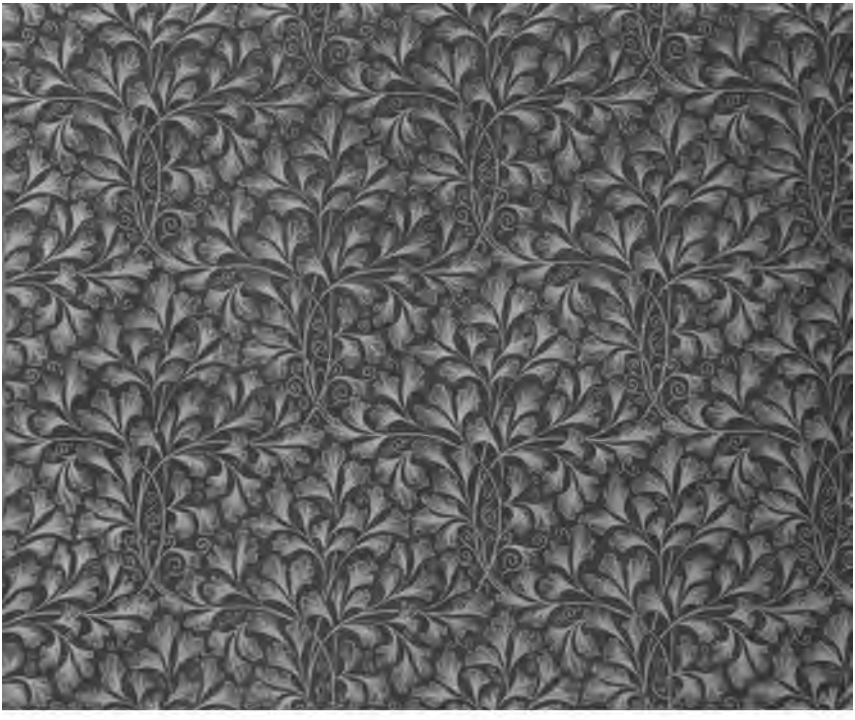
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